ORDER NO. HAD8704078C8

Service Manual

Cassette Deck

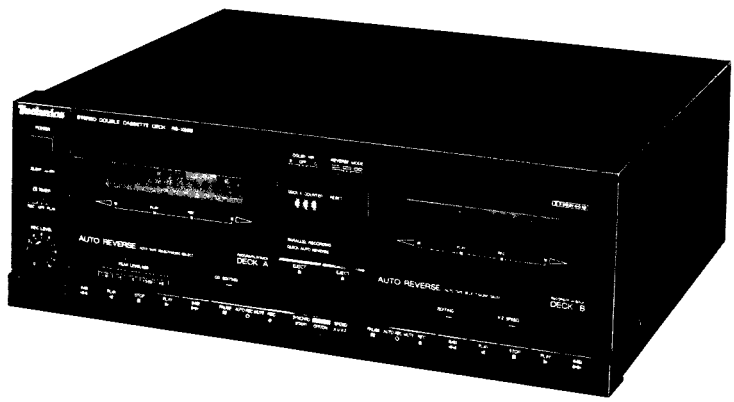
RS-X888

Dolby B • C NR-Equipped
Stereo Double Cassette Deck

DOLBY B•C NR*

Color

(K)... Black Type



Color	Areas
(K)	[E]..... All European areas except United Kingdom.
(K)	[EK]..... United Kingdom.
(K)	[EH]..... Holland.
(K)	[EG]..... F.R. Germany.
(K)	[XA]..... Asia, Latin America, Middle East and Africa.
(K)	[XL]..... Australia.
(K)	[XB]..... Saudi Arabia.

SPECIFICATIONS

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Heads	
(DECK A) REC/PLAY	Solid permaloy head
Erasing	Double-gap ferrite head
(DECK B) PLAY	Solid permaloy head
Erasing	Double-gap ferrite head
Motors	
(DECK A) Capstan/reel table drive	2 speed electronically controlled DC motor
(DECK B) Capstan/reel table drive	2 speed electronically controlled DC motor
Recording system	AC bias
Bias frequency	77kHz
Erasing system	AC erase
Tape speed	4.8cm/sec. (1-7/8 ips.)
Frequency response	
METAL	30Hz~18kHz (±15dB) 40Hz~17kHz (DIN)
CrO_2	30Hz~17kHz (±15dB) 40Hz~16kHz (DIN)
NORMAL	30Hz~16kHz (±15dB) 40Hz~15kHz (DIN)

S/N	(signal level=max. recording level, CrO_2 type tape)
DOLBY C NR on	74dB (CCIR)
DOLBY B NR on	66dB (CCIR)
DOLBY NR off	56dB (A weighted)
Wow and flutter	0.07% (WRMS), ±0.2% (DIN)
Fast Forward and Rewind Time	Approx. 95 seconds with C-60 cassette tape
Input sensitivity and impedance	
LINE	60mV/47kΩ
Output voltage and impedance	
LINE	400mV/1.5kΩ
Power consumption	22W
Power supply	
For Continental Europe	AC 220V, 50Hz/60Hz
For Others	AC 110V/127V/220V/240V, 50Hz/60Hz
Dimensions (W × H × D)	360 × 128 × 296mm
Weight	5.1kg

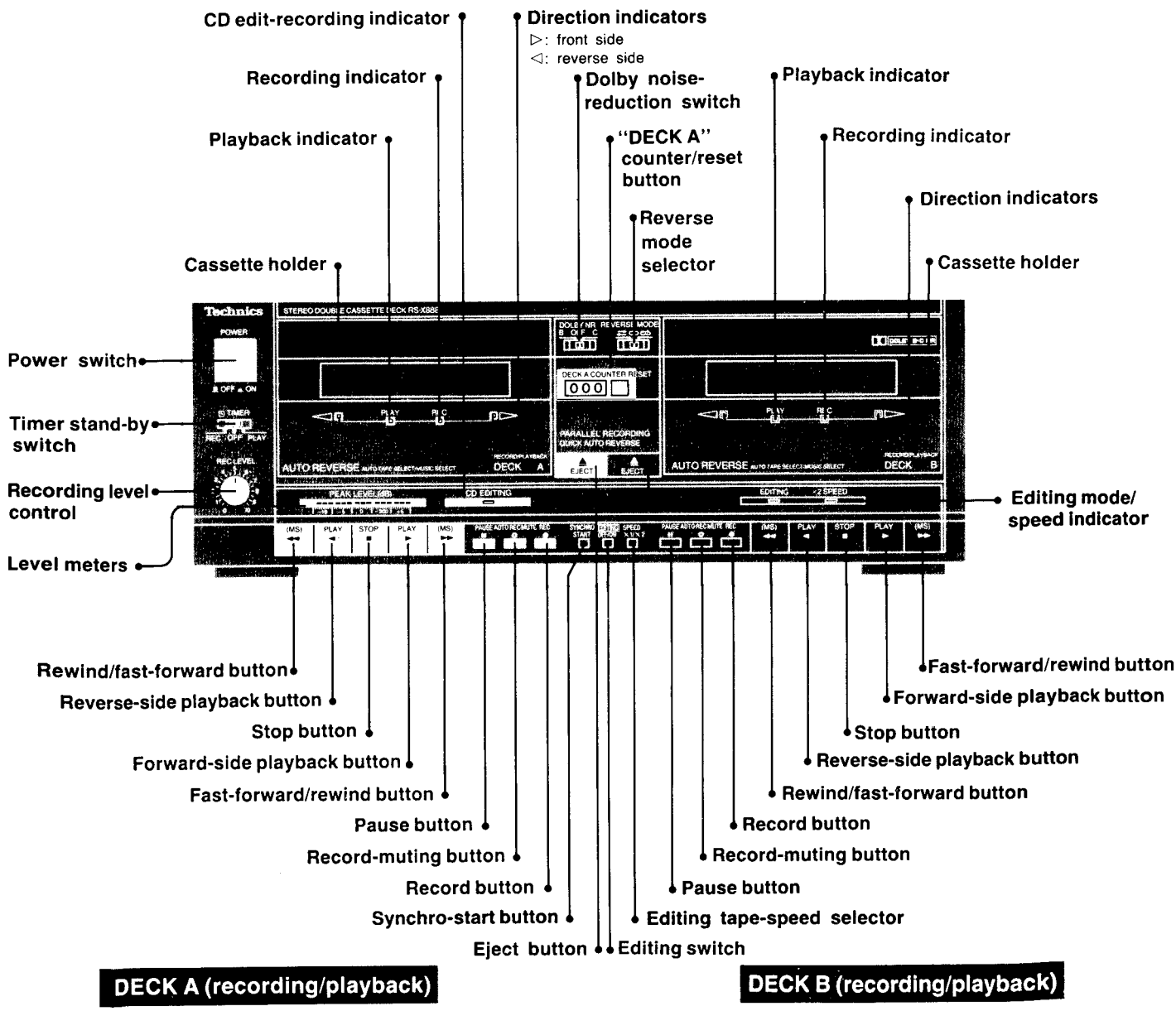
*Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

■ CONTENTS

■ LOCATION OF CONTROLS



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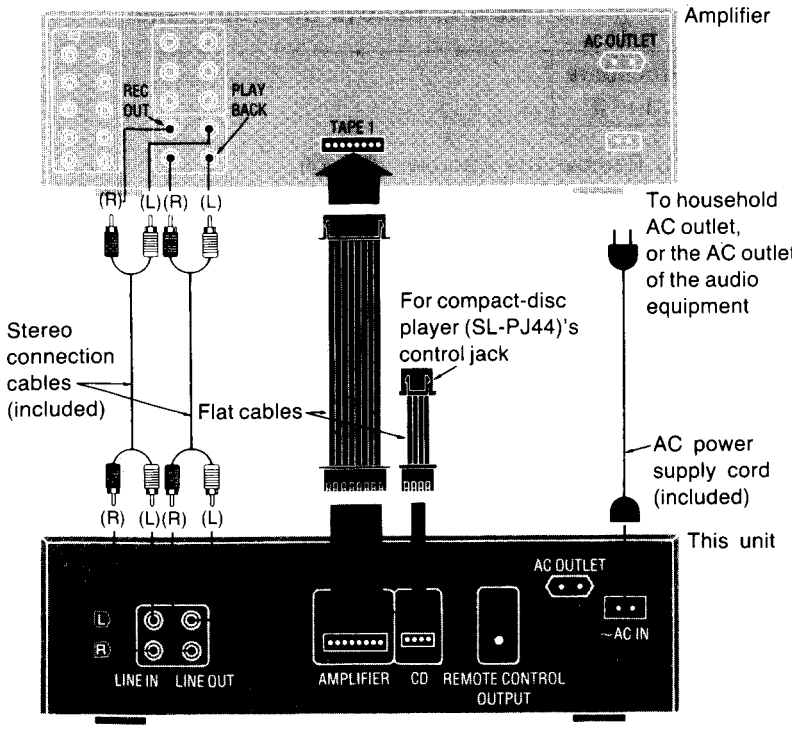
■ HOW TO CONNECTION



The configuration of the AC outlet and AC power supply cord differs according to area.

Notes:

Remote control output terminal:

This terminal can be used only with Technics graphic equalizer or compact disc player having a remote control terminal for a tape deck.
(Refer to the operating instructions of the amplifier.)

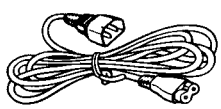
AC outlet

Do not exceed the indicated power rating when connecting to this outlet.

*: (For Technics amplifier model SU-X880, SU-X860 only.)

■ ACCESSORIES

- AC power supply cord 1

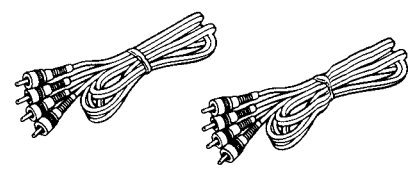


(SFDAC05E03 [E, EG, EH]
SJA168-1 [XA]
SJA173 [XL]
SJA183 [XB]
SJA188 [EK])

- Flat cables for remote control 2

(SWKSX888-KE
SWKSX888-KE1)

- Stereo connection cables 2



(SJP2264
SJPK2202)

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■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	How to remove the cabinet
Procedure 1	• Remove the 6 screws.

Ref. No. 2	How to remove the main P.C.B.
Procedure 1 → 2	

1. Remove the 19 screws (❶~⑲).
2. Remove the Rear panel in the direction of arrow, and then remove the Main P.C.B.

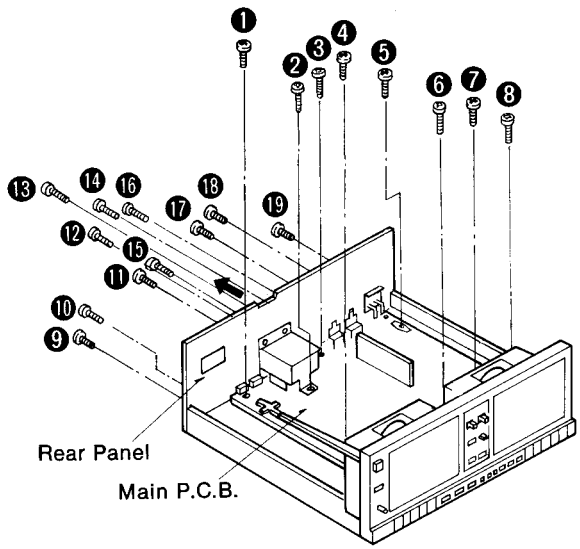

Fig. 1

Ref. No. 3	How to remove the front panel
Procedure 1 → 3	

1. Remove the 7 screws (❶~❼).
2. Remove the spring.
3. Push the Eject button, and then remove the front panel.

NOTE: If the mechanism stops in play state while the tape is running, the head PCB is lifted and stuck, and the cassette lid will not open if the eject button is pressed. In such a case, turn the main gear by head, or apply a DC 12V power directly to capstan motor ⊕ and ⊖ terminals from the power supply jig (SZZA1047F). Then the head PCB is lowered, and the mechanism comes into stop state, so that eject operation is enabled.

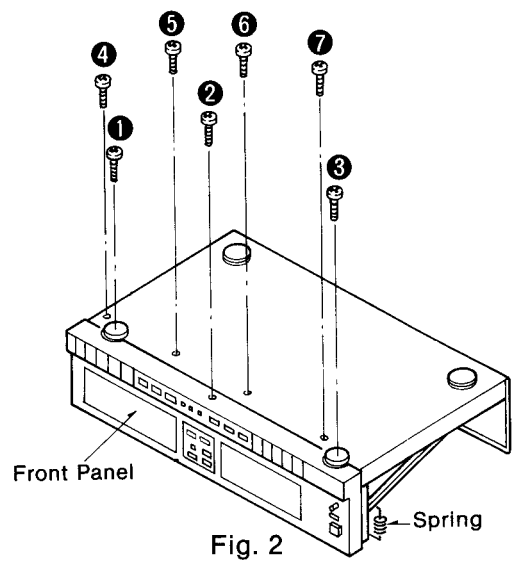

Fig. 2

Ref. No. 4	How to remove the mechanism unit
Procedure 1 → 3 → 4	

1. Remove the 10 screws (❶~⑩).
2. Remove the Counter belt (for DECK A).
3. Remove the Springs.
4. Push the Eject button.
5. Remove the Mechanism (DECK A, B) in the direction of arrow.

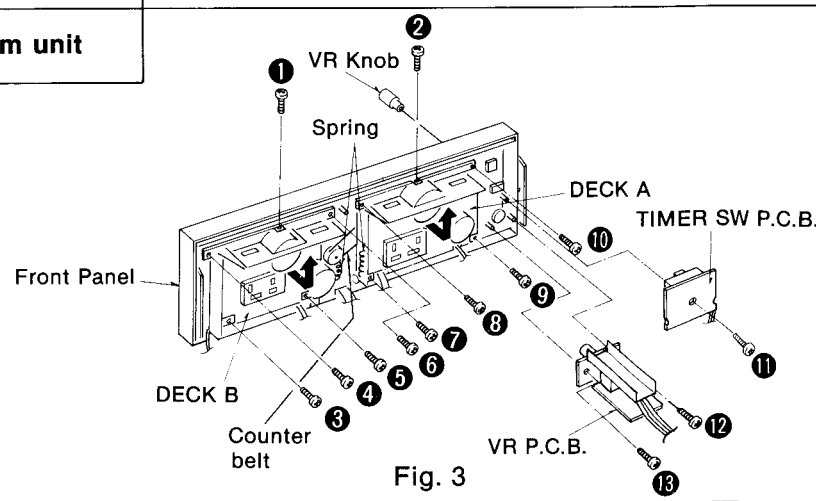

Fig. 3

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Ref. No. 5	How to remove the timer sw P.C.B. and VR P.C.B.
Procedure 1 → 5	

1. Remove the one screw (⓫), and then remove the Timer sw P.C.B. (See Fig. 3).
2. Remove the VR knob (See Fig. 3).
3. Remove the 2 screws (⓬, ⓭), and then remove the VR P.C.B. (See Fig. 3).

Ref. No. 6	How to remove the operation sw P.C.B. and NR/Mode sw P.C.B.
Procedure 1 → 3 → 4 → 6	

1. Remove the 3 screws (❶~❸), and then remove the Operation panel.
2. Remove the 5 screws (❹~❽), and then remove the Operation sw P.C.B.
3. Remove the Spacer in the direction of arrow.
4. Remove the one screw (❾), and then remove the NR/Mode sw P.C.B.

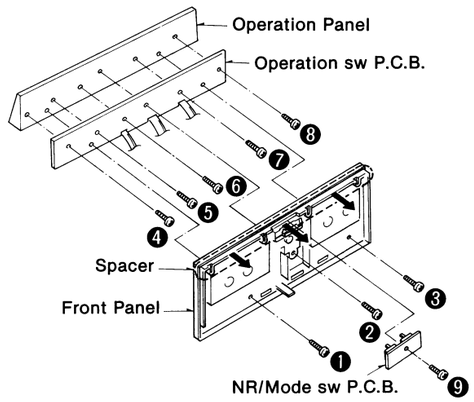


Fig. 4

Ref. No. 7	How to remove the LED P.C.B.
Procedure 7	

1. Push the Eject button.
2. Remove the Cassette lid.
3. Push down the 2 Tabs aside, and then remove the LED P.C.B.

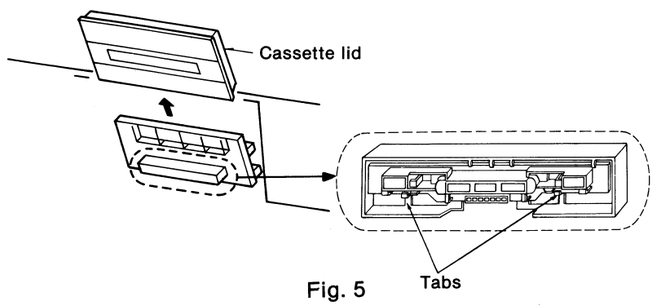


Fig. 5

■ MEASUREMENT AND ADJUSTMENT METHODES

Measurement Condition

- Input level controls; Maximum
- Editing switch; Off
- Noise reduction select switch; Off
- Editing tape speed switch; X1
- Timer start switch; Off
- Reverse mode selector; ⇄
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature 20±5°C (68±9°F)

Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator
- ATT (Attenuator)
- DC voltmeter
- Resistor (600Ω)

Test tape

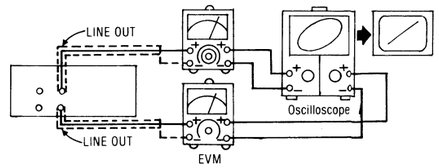
- Head azimuth adjustment (8kHz, −20dB); QZZCFM
- Tape speed adjustment (3kHz, −10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250kHz, 125kHz, 63kHz, −20dB); QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
  Normal reference blank tape; QZZCRA
  CrO_2 reference blank tape; QZZCRX
  Metal reference blank tape; QZZCRZ

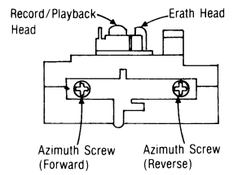
HEAD AZIMUTH ADJUSTMENT

1. Playback the azimuth adjusted part (8kHz, −20dB) of the test tape (QZZCFM) and regulate the angle adjusting screw so that the outputs of L-CH and R-CH are maximized.
   (When the adjusting positions are different with L-CH and R-CH, find a position where the L-CH and R-CH are balanced, and then make the adjustment.)
2. At the same time, draw a lissajous waveform and eliminate phase deflection.
3. Perform the same adjustment in reverse play mode.

Forward and reverse rotation level difference check

4. Playback the playback gain adjusted part (315Hz, 0dB) of the test tape (QZZCFM), and then check that the forward and reverse rotation level difference is within 1dB.
5. After the adjustment apply screw-lock to the angle adjusting screw.





TAPE SPEED ADJUSTMENT (DECK A, B)

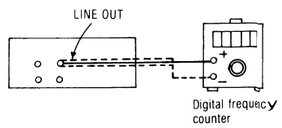
High speed

1. Set the editing tape speed switch to "**X2**" and ground the Deck B=TP3 and Deck A=TP4.
2. Playback the middle part of the test tape (QZZCWAT).
3. Adjust Deck B=VR803 and Deck A=VR804 so that the output is within the standard.

Normal speed

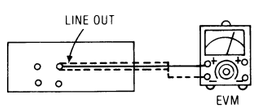
4. Set the editing tape speed switch to "**X1**" and open the Deck B=TP3 and Deck A=TP4.
5. Playback the middle part of the test tape (QZZCWAT).
6. Adjust Deck B=VR801 and Deck A=VR802 so that the output is within the standard.

Standard value: 3000±15Hz (Normal), 6000±30Hz (High)



PLAYBACK FREQUENCY RESPONSE

1. Playback the playback frequency response part (315Hz, 12.5kHz~63Hz, −20dB) of the test tape (QZZCFM).
2. Check that the frequency is within the range shown in Fig. 1 for both L-CH and R-CH.



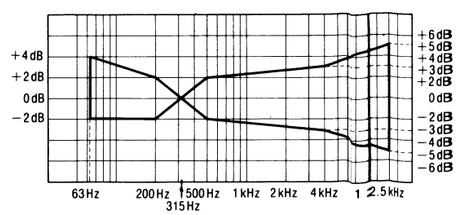


Fig. 1

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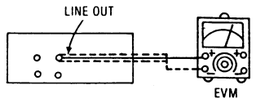
PLAYBACK GAIN ADJUSTMENT (DECK A, B)

1. Playback the playback gain adjusted part (315Hz, 0dB) of the test tape (QZZCFM).
2. Adjust Deck B=VR1 (L-CH) [[VR2 (R-CH)]] and Deck A=VR3 (L-CH) [[VR4 (R-CH)]] so that the output is within the standard.

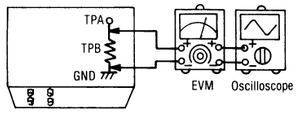
Standard value: 0.4V±0.5dB



ERASE CURRENT ADJUSTMENT (DECK A, B)

1. Insert a metal tape.
2. Press the record and pause buttons.
3. Adjust VR301 (DECK B) [[VR302 (DECK A)]] so that the output between TP1 (DECK B) [[TP2 (DECK A)]] and ground is within the standard.

Standard value: 170±5mA (Metal) (170±5mV)



• TPA: TP1 (DECK B), TP2 (DECK A)
TPB: VR301 (DECK B), VR302 (DECK A)

OVERALL FREQUENCY RESPONSE (DECK A, B)

1. Set a normal blank tape (QZZCRA) and record by applying signal (50Hz~12.5kHz), 20dB attenuated from the reference input level signal (1kHz, −24dB).
2. Playback the signal recorded in step 1, and check that the level of each output frequency is within the range shown in **Fig. 2** in comparison with the reference frequency (1kHz).
3. If it is not within the standard range, adjust the bias current by Deck B=VR9 (L-CH) and Deck A=11 (L-CH) [[Deck B=VR10 (R-CH) and Deck A=VR12 (R-CH)]] so that the frequency level is within the standard.
   - Level up in high frequency range ... Increase the bias current.
   - Level down in high frequency range ... Decrease the bias current.
4. After that, increase the signal recorded on CrO_2 blank tape (QZZCRX) and metal blank tape (QZZCRZ) up to 14kHz and adjust in the same way as mentioned above and check that the frequency level is within the range shown in **Fig. 3**.

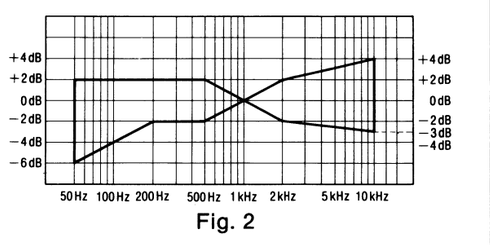


Fig. 2

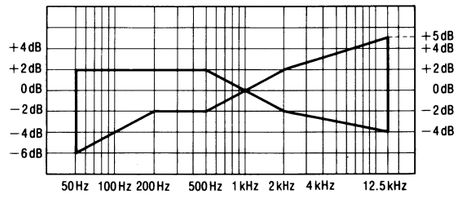
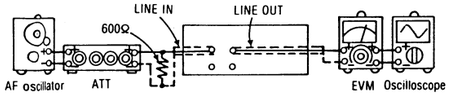


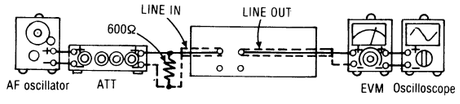
Fig. 3



OVERALL GAIN ADJUSTMENT (DECK A, B)

1. Set a normal blank tape (QZZCRA) and apply the reference input level signal (1kHz, −24dB) in record pause mode.
2. Adjust the output 0.4V by attenuator and then record.
3. Playback the signal recorded in step 2, and check that the output is within the standard.
4. If it is not within the standard, adjust Deck B=VR5 (L-CH) and Deck A=VR7 (L-CH) [[Deck B=VR6 (R-CH) and Deck A=VR8 (R-CH)]] and repeat the step (1), (2) and (3) until the output is within the standard.

Standard value: 0V±0.5dB



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DOLBY NR CIRCUIT

1. Set a normal tape and apply 1kHz signal in record pause mode.
2. Adjust by attenuator so that the output between terminal 7 of IC401 (L-CH) [[IC402 (R-CH)]] and ground is 12.3mV.

—Dolby B (Encode characteristic)—

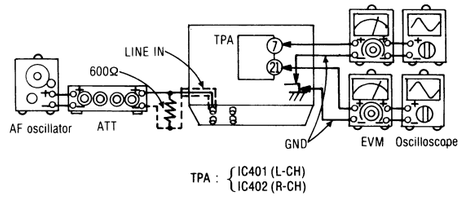
3. Set NR switch to "Dolby B" and change the input signal to 1kHz, 5kHz.
4. Check that the output between terminal 21 of IC401 (L-CH) [[IC402 (R-CH)]] and ground change as specified from the level in NR out mode.

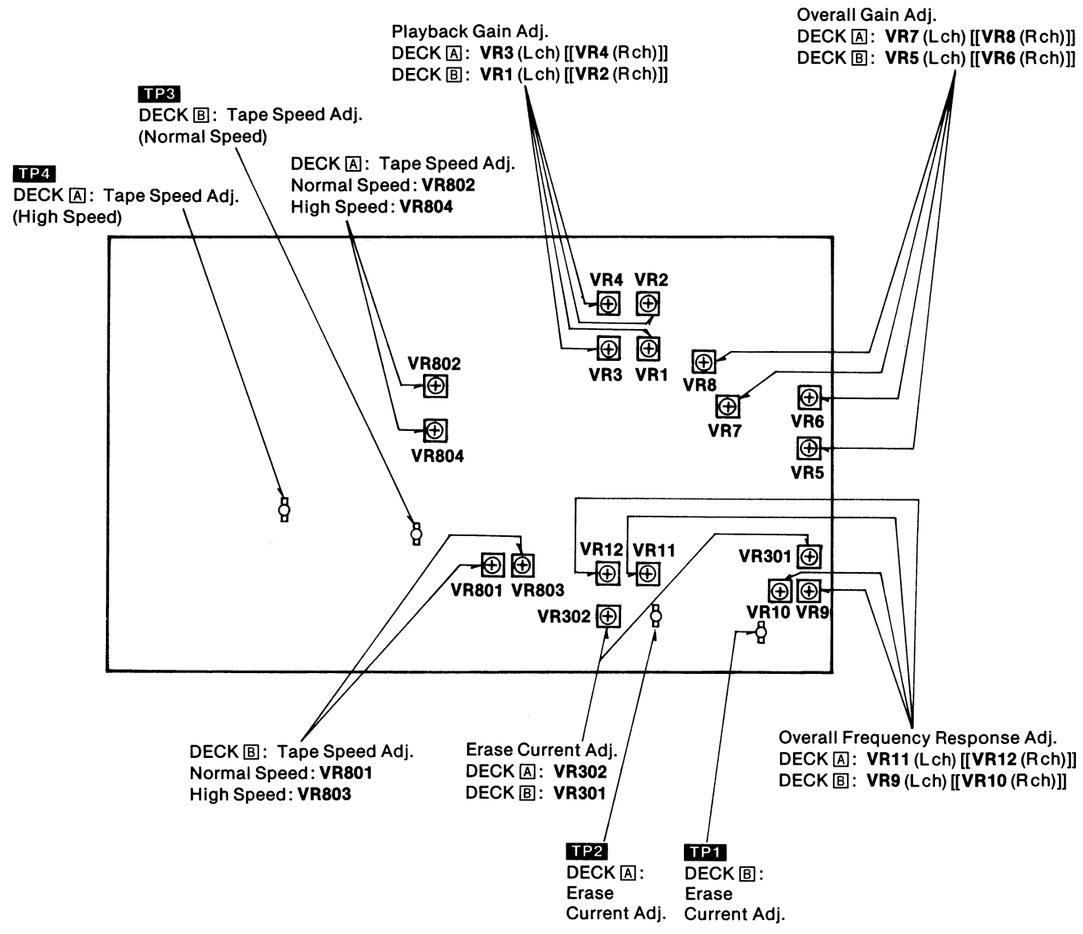
Standard value: 6±2.5dB (1kHz), 8±2.5dB (5kHz)

—Dolby C (Encode characteristic)—

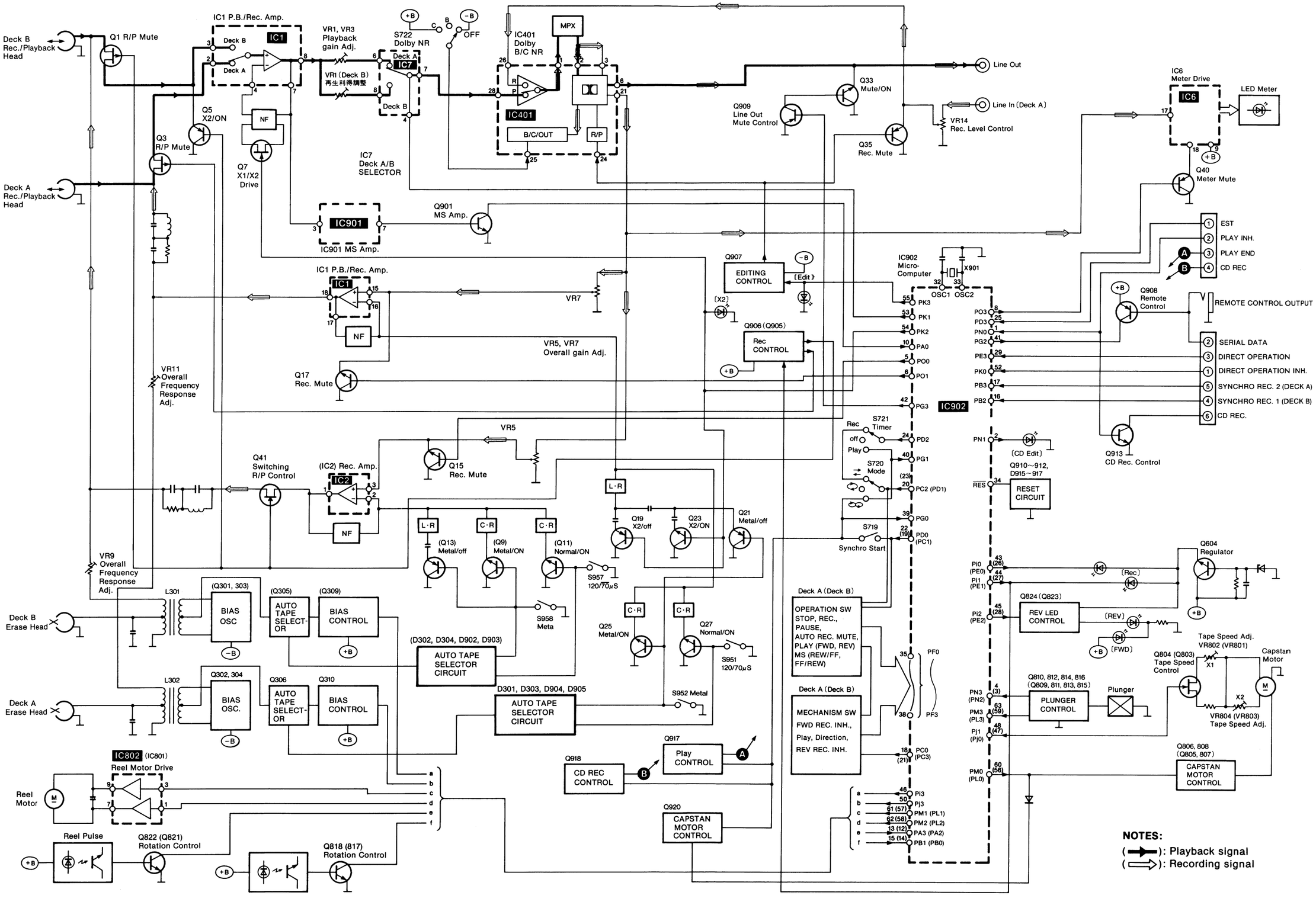
5. Set NR switch to "Dolby C" and change the input signal to 1kHz, 5kHz.
6. Check that the output between terminal 21 of IC401 (L-CH) [[IC402 (R-CH)]] and ground change as specified from the level in NR out mode.

Standard value: 11.5±2.5dB (1kHz), 8.5±2.5dB (5kHz)



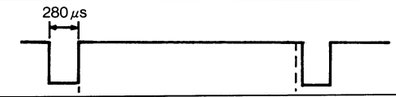
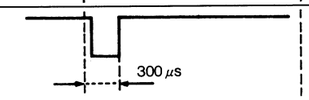
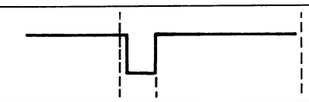
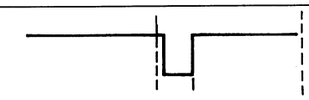
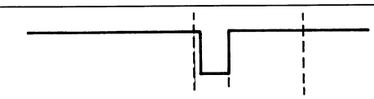
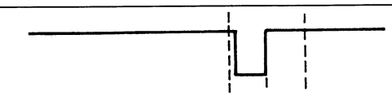
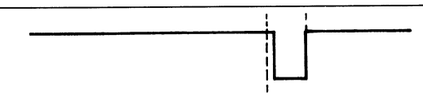
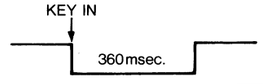


■ BLOCK DIAGRAM



■ MICROCOMPUTER TERMINAL FUNCTION AND WAVEFORM
IC902 (LC6554D-3299)

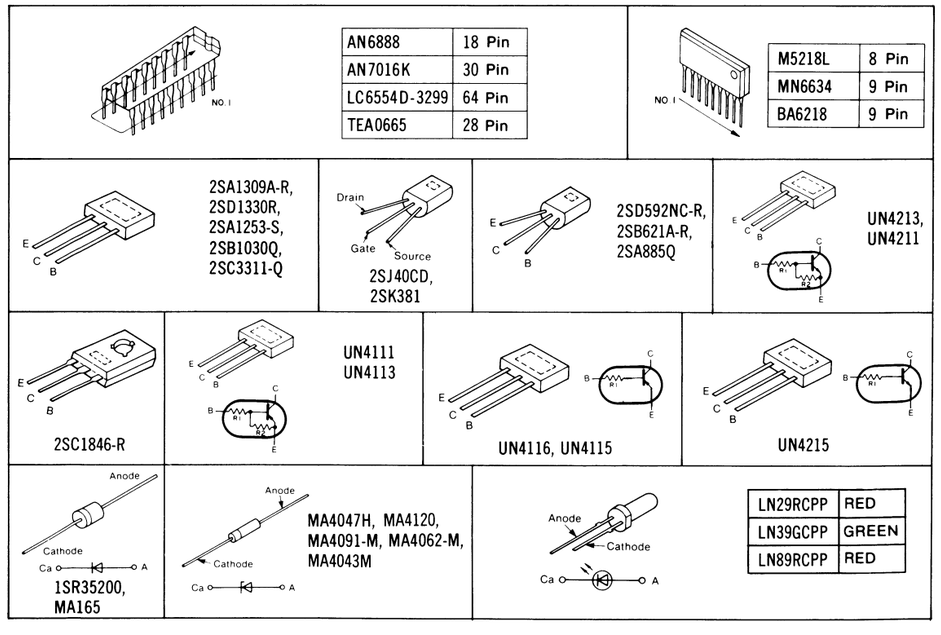
Terminal No.	Symbol	Function/Operation
1	PN0	• "H" in CD editing rec mode, and "L" in other mode.
2	PN1	CD editing LED • Light up only in CD editing rec mode. • When CD editing LED light up, the level goes "H".
3	PN2	• "H" in Deck B MS search mode.
4	PN3	• "H" in Deck A MS search mode.
5	PO0	Deck B Rec Mute control • "H" in Stop, FF, REW and Play mode. • When Auto Rec Mute button is pressed in Rec Pause mode, the level changes from "L" to "H", and changes to "L" with the button released. • When Auto Rec Mute button is pressed in Rec Play mode, the level goes "H". It changes to "L" 4.0 sec. later in normal speed mode, and 2.5 sec. later in high speed mode.
6	PO1	Deck A Rec Mute control • "H" in Stop, FF, REW and Play mode. • When Auto Rec Mute button is pressed in Rec Pause mode, the level changes from "L" to "H", and changes to "L" with the button released. • When Auto Rec Mute button is pressed in Rec Play mode, the level goes "H". It changes to "L" 4.0 sec. later in normal speed mode, and 2.5 sec. later in high speed mode.
7	PO2	• Non connection.
8	PO3	Deck A Meter Mute control • "H" in Stop, FF and REW mode. • In Rec Pause, Rec Play mode, "H" only in PO0 is "H" level.
9	PP0	• Non connection.
10	PA0	Non signal input • It goes "H" in non signal MS search mode.
11	PA1	• Power off detection
12	PA2	Deck B Reel table Pulse input • The rotation of reel table is detected by photo senser.
13	PA3	Deck A Reel table Pulse input • The rotation of reel table is detected by photo senser.
14	PB0	Deck B Leader tape detection input • "L" level pulses are generated between the leader tape section and the magnetic section. (approx. 100 sec.)
15	PB1	Deck A Leader tape detection input • "L" level pulses are generated between the leader tape section and the magnetic section. (approx. 100 sec.)
16	PB2	Deck B Synchro rec detection • "L" in CD Play mode, and "H" in other mode.
17	PB3	Deck A Synchro rec detection • "L" in CD Play mode, and "H" in other mode.

Terminal No.	Symbol	Function/Operation
18	PC0	Scan output 
19	PC1	
20	PC2	
21	PC3	
22	PD0	
23	PD1	
24	PD2	
25	PD3	End of tape detection • "L" in end of tape detected, and "H" in reverse mode.
26	PE0	Deck B Play control • "L" in Play and Rec Play mode. • In Pause, Rec Pause and MS search mode, the level goes "H" ⇄ "L".
27	PE1	Deck B Rec control • "L" in Rec Pause and Rec Play mode.
28	PE2	Deck B Reverse control • "L" only in Reverse mode.
29	PE3	Direct operation 
30	TEST	Test terminal • Used for microcomputer test, and usually connected to Ground.
31	V_{SS}	GND terminal • Connection to Ground.
32	OSC1	Clock OSC terminal • About 1.7 V DC, but microcomputer does not work with probe connected.
33	OSC2	Clock OSC terminal • Oscillation at about 3 MHz.
34	$\overline{RES}$	Reset terminal • Used for microcomputer reset, and the level goes "H".
35	PF0	Input switch stage reading with scan output • Input of Deck A, B, forward rec inhibit switch, forward REW switch (◀◀) and auto rec mute switch.

Terminal No.	Symbol	Function/Operation
36	PF1	Input switch stage reading with scan output • Input of Deck A, B, Reverse rec inhibit switch, forward FF switch (▶▶) and Pause switch.
37	PF2	Input switch stage reading • Input of Deck A, B, Play switch, Reverse Play switch (◀) and Rec switch.
38	PF3	Input switch stage reading • Input of Deck A, B, Direction switch, forward Play switch (▶), stop switch.
39	PG0	Input switch stage reading • Input of Synchro start switch, Reverse mode switch (⇄), CD Editing switch and Timer rec switch.
40	PG1	Input switch stage reading • Input of Editing switch, Reverse mode switch (⇄), ×1/×2 Editing speed selector switch, Play end and Timer Play switch.
41	PG2	Remote control data input
42	PG3	Line out Mute control output • "H" in Play mode.
43	Pi0	Deck A Play control • "L" in Play and Rec Play mode. • In Pause, Rec Pause and MS search mode, the level goes "H" ⇄ "L".
44	Pi1	Deck A Rec control • "L" in Rec Pause and Rec Play mode.
45	Pi2	Deck A Reverse mode control • "L" only in Deck A Reverse mode.
46	Pi3	Deck B Bias OSC control • "L" in Deck B Rec Play mode.
47	Pj0	Deck B Tape speed control • "L" only in high speed (×2).
48	Pj1	Deck A Tape speed control • "L" only in high speed (×2).
49	Pj2	Muting control • "H" in Play, Rec and Editing rec mode.
50	Pj3	Deck A Bias OSC control • "L" in Deck A Rec Play.
51	Vp	Power supply terminal for Pull Down Resistor.
52	PK0	Direct operation inhibit output • "H" in Rec Pause or Rec Play mode.
53	PK1	Deck A Play control • "H" only in Deck A Play mode.
54	PK2	Editing speed control • "H" only in ×2 Editing mode.
55	PK3	Editing mode control • "H" only in Editing mode.
56	PL0	Deck B Capstan motor control • "H" only in Deck B Play and Rec Play mode.
57	PL1	Deck B Forward FF/REW motor control • "H" only in Deck B Forward Play FF mode.

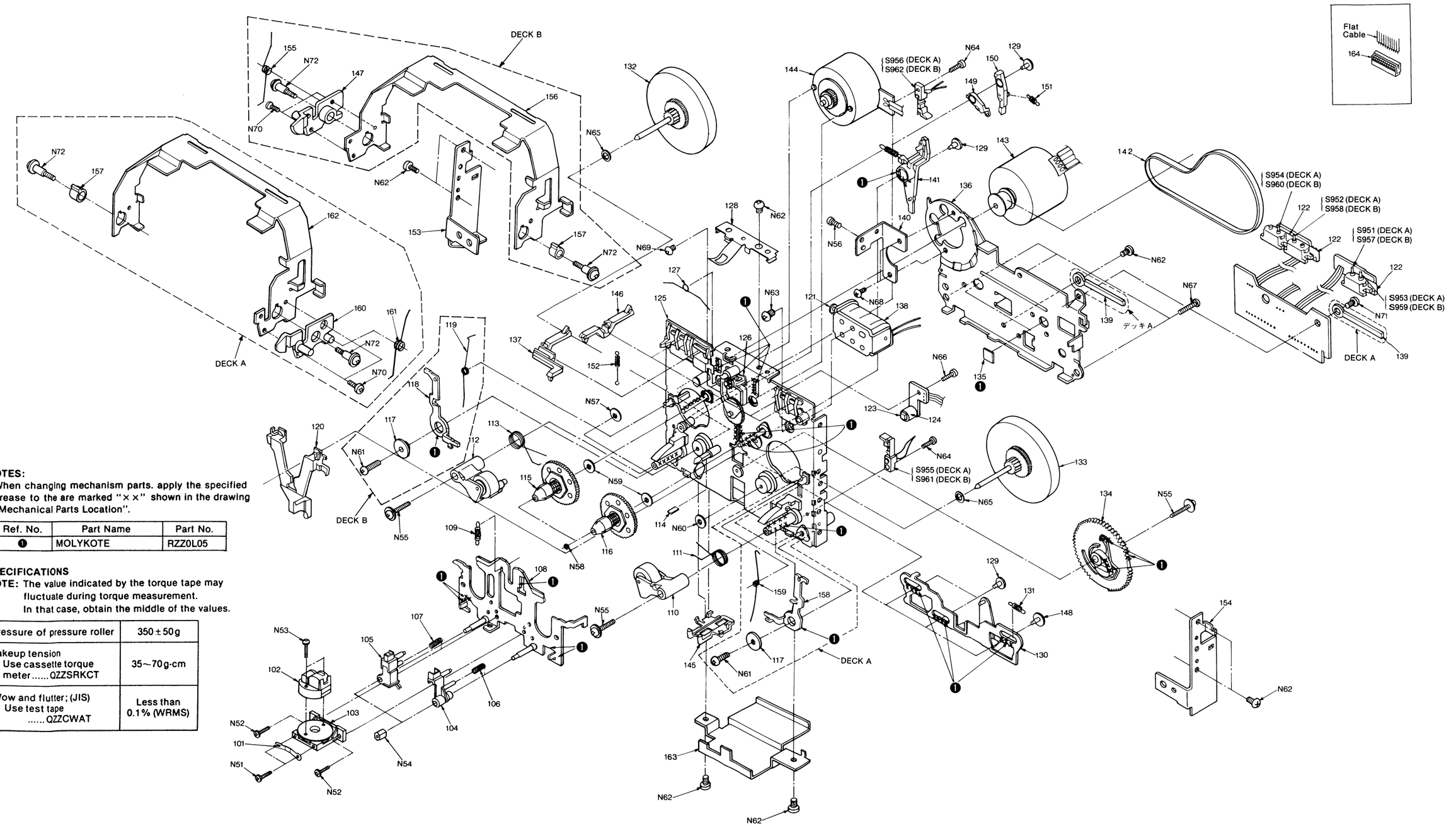
Terminal No.	Symbol	Function/Operation
58	PL2	Deck B Reverse FF/REW motor control • "H" only in Deck B Reverse Play REW mode.
59	PL3	Deck B Play plunger control • When mechanism mode is changed over, the level goes "H" for short time.
60	PM0	Deck A Capstan motor control • "H" only in Deck A Play and Rec Play mode.
61	PM1	Deck A Forward FF/REW motor control • "H" only in Deck A Forward Play FF mode.
62	PM2	Deck A Reverse FF/REW motor control • "H" only in Deck A Reverse Play FF mode.
63	PM3	Deck A Play plunger control • When mechanism mode is changed over, the level goes "H" for short time.
64	V_{DD}	Power supply terminal • Operative on 4.5~5.5 volts.

■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES



D

■ MECHANICAL PARTS LOCATION



NOTES:

- When changing mechanism parts. apply the specified grease to the are marked "× ×" shown in the drawing "Mechanical Parts Location".

Ref. No.	Part Name	Part No.
❶	MOLYKOTE	RZZ0L05

SPECIFICATIONS

NOTE: The value indicated by the torque tape may fluctuate during torque measurement. In that case, obtain the middle of the values.

Pressure of pressure roller	350 ± 50 g
Takeup tension * Use cassette torque meter ..... QZZSRKCT	35 ~ 70 g-cm
Wow and flutter; (JIS) * Use test tape ..... QZZCWAT	Less than 0.1 % (WRMS)

■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Code	Description
CASSETTE DECK			
101	SMQA1094	016 726 0887 5	COIL SPRING
102	SMQA1045	001 270 1745 8	MAGNETIC HEAD
103	SMQA1090	016 630 1782 0	PLATE
104	SMQA1047	016 641 0257 9	GUIDE
105	SMQA1048	001 036 0036 2	PHOTO ELECTRIC TRANSDUCER
106	SMQA1049	016 726 0878 6	COIL SPRING
107	SMQA1050	016 726 0879 5	COIL SPRING
108	SMQA1051	016 630 1779 5	PLATE
109	SMQA1004	016 726 0826 8	SPRING
110	SMQA1005	016 740 0114 1	ROLLER
111	SMQA1006	016 726 0825 9	SPRING
112	SMQA1052	016 740 0121 2	ROLLER
113	SMQA1053	016 726 0880 2	COIL SPRING
114	SMQA1054	016 630 1780 2	PLATE
115	SMQA1013	016 913 0004 5	REEL
116	SMQA1026	016 913 0003 6	REEL
117	SMQA1009	016 643 0966 7	SPACER
118	SMQA1055	016 717 0257 0	ARM
119	SMQA1012	016 726 0835 7	SPRING
120	SMQA1056	016 718 3358 9	LEVER
121	SMQA1057	016 713 0364 8	SHAFT
122	SMQA1021	016 643 0965 8	SPACER
123	SMQA1041	001 035 0392 0	PHOTO ELECTRIC TRANSDUCER
124	SMQA1022	016 643 0964 9	SPACER
125	SMQA1122	016 630 1806 9	CHASSIS
126	SMQA1061	016 742 0039 5	IDLER PULLEY
127	SMQA1024	016 726 0834 8	SPRING
128	SMQA1062	016 726 0881 1	COIL SPRING
129	SMQA1029	016 640 0459 6	CAP
130	SMQA1063	016 630 1783 9	PLATE
131	SMQA1064	016 726 0882 0	COIL SPRING
132	SMQA1066	016 756 0085 3	WHEEL
133	SMQA1096	016 756 0086 2	WHEEL
134	SMQA1123	016 745 0226 9	GEAR
135	SMQA1097	016 643 1004 4	SPACER
136	SMQA1068	016 650 5303 9	BRACKET
137	SMQA1069	016 718 3359 8	LEVER
138	SMQA1070	003 454 0638 6	PLUNGER
139	SMQA1071	016 643 0989 0	WASHER
140	SMQA1126	016 650 5351 1	ANGLE
141	SMQA1073	016 718 3360 5	LEVER
142	SMQA1124	016 754 0077 3	ANGULAR BELT
143	SMQA1125	002 310 2495 4	DC MOTOR
144	SMQA1036	002 310 2270 9	DC MOTOR
145	SMQA1076	016 631 0055 3	FRAME,HOLDER
146	SMQA1025	016 718 3349 0	LEVER
147	SMQA1129	016 712 0357 2	ROD
148	SMQA1079	016 640 0487 2	CAP
149	SMQA1080	016 717 0258 9	ARM
150	SMQA1081	016 717 0259 8	ARM
151	SMQA1082	016 726 0884 8	COIL SPRING
152	SMQA1083	016 726 0886 6	COIL SPRING
153	SMQA1127	016 632 1867 6	ANGLE
154	SMQA1128	016 632 1865 8	ANGLE
155	SMQA1133	016 726 0935 4	COIL SPRING
156	SMQA1131	016 718 3378 5	LEVER
157	SMQA1135	016 643 1021 3	SPACER
158	SMQA1119	016 717 0262 3	ARM
159	SMQA1120	016 726 0933 6	COIL SPRING
160	SMQA1130	016 712 0356 3	ROD
161	SMQA1134	016 726 0934 5	COIL SPRING
162	SMQA1132	016 718 3377 6	LEVER
163	SMQA1137	016 601 0614 2	SHIELD PLATE
164	SJT30640LX-V	003 410 6149 8	CONNECTOR
164	SJT30840LX-V	003 410 5998 9	LUG TERMINAL
164	SJT30940LX-V	003 410 6150 5	LUG TERMINAL
SCREWS,WASHERS & NUTS			
N51	SMQA1092	005 500 7744 4	SCREW
N52	SMQA1043	005 500 7741 7	SCREW
N53	SMQA1093	005 500 7745 3	SCREW
N54	SMQA1046	005 507 1969 8	NUT
N55	XTN2+13C	005 501 3505 8	TAPPING SCREW
N56	XTS3+6B	005 501 0697 7	SCREW
N57	SMQA1091	016 862 1061 4	INDICATION PLATE,LABEL
N58	SMQA1010	016 765 0056 7	REEL TABLE
N59	SMQA1014	016 641 0246 2	SLIDER
N60	SMQA1007	016 862 1041 8	INDICATION PLATE,LABEL
N61	XTN3+10B	005 501 0341 2	SCREW
N62	XTN3+4F	005 501 0412 4	TAPPING SCREW
N63	XYN26+C3	005 503 0738 5	SCREW
N64	XTN2+7C	005 501 3506 7	TAPPING SCREW
N65	SMQA1031	005 513 4185 4	WASHER
N66	XTN26+6B	005 501 0314 5	SCREW
N67	XTN26+8B	005 501 0320 7	TAPPING SCREW
N68	XYN26+C45	005 503 0928 1	SCREW
N69	XYN26+C6	005 503 0554 1	SMALL SCREW
N70	XTS2+4B	005 501 0643 1	SCREW
N71	XTN3+5F	005 501 3502 1	TAPPING SCREW
N72	SMQA1136	005 500 7943 9	SCREW

■ RESISTORS & CAPACITORS

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area.
Parts without these indications can be used for all areas.

Numbering System of Resistor

Example

ERD	25	F	J	102
Type	Wattage	Shape	Tolerance	Value

ERX	2	AN	J	471
Type	Wattage	Shape	Tolerance	Value 47x10¹ (ohm)

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity

ECEA	50	M	330
Type	Voltage	Peculiarity	Value (33x10° microfarad)

Resistor Type	Wattage	Tolerance
ERD : Carbon ERG : Metal Oxide ERX : Metal Film ERQ : Fuse Type Metal ERD☐L : Carbon (chip) ERQ☐K : Metal Film (chip) ERC : Solid	10 : 1/8W 12 : 1/2W 25 : 1/4W 1A : 1W 18 : 1/8W S2 : 1/4W S1 : 1/2W 2F : 1/4W 50 : 1/2W 2A : 2W	J : ±5% F : ±1% G : ±2% K : ±10%

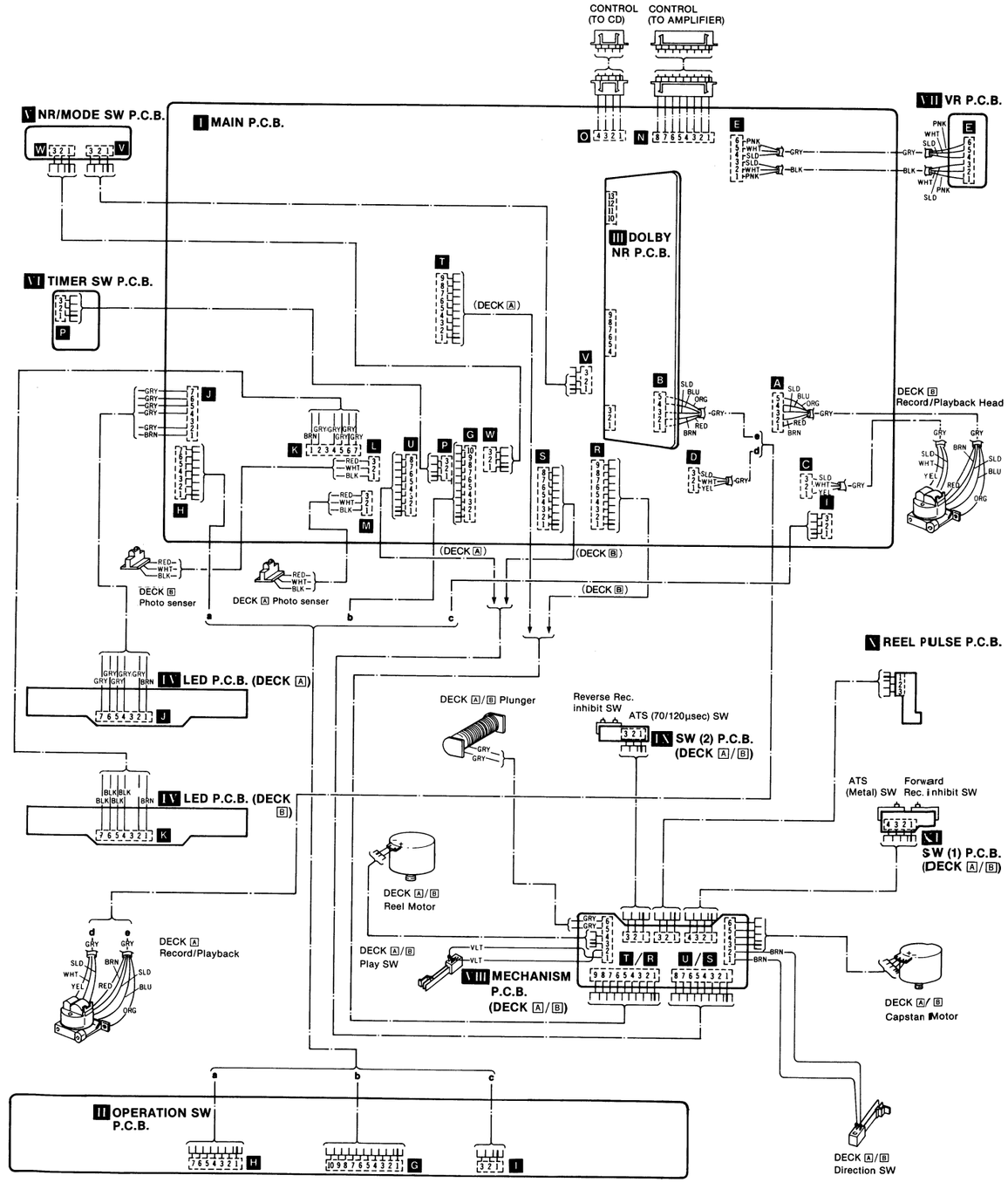
Capacitor Type	Voltage	Tolerance
ECE : Electrolytic ECCD : Ceramic ECKD : Ceramic ECQM : Polyester ECQP : Polyproylene ECG : Ceramic ECEA□□□N: Non Polar Electrolytic QCU☐ : Ceramic (Chip Type) ECUX : Ceramic (Chip Type) ECF : Semiconductor EECW : Liquid electrolyte double layer capcitor	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1H : 50V 1V : 35V 50 : 50V 05 : 50V 2H : 500V 2A : 100V 1 : 100V KC : 400V AC KC : 125VAC (UL) 1J : 63V	C : ±0.25pF J : ±5% K : ±10% Z : +80% –20% P : +100% –0% M : ±20% D : ±0.5pF G : ±2%

Ref. No.	Part No.	Part Code
RESISTORS		
R1, R2	ERDS2TJ101	001 152 2421 0
R3, R4	ERDS2TJ101	001 152 2421 0
R5, R6	ERDS2TJ225	001 152 3149 3
R7, R8	ERDS2TJ225	001 152 3149 3
R9, R10	ERDS2TJ101	001 152 2421 0
R11, R12	ERDS2TJ101	001 152 2421 0
R13, R14	ERDS2TJ820	001 152 2453 2
R15, R16	ERDS2TJ332	001 152 2357 1
R17, R18	ERDS2TJ272	001 152 2354 4
R19, R20	ERDS2TJ152	001 152 2350 8
R21, R22	ERDS2TJ272	001 152 2354 4
R23, R24	ERDS2TJ223	001 152 2432 7
R25, R26	ERDS2TJ472	001 152 2362 4
R27, R28	ERDS2TJ183	001 152 2429 2
R29, R30	ERDS2TJ225	001 152 3149 3
R31, R32	ERDS2TJ223	001 152 2432 7
R33, R34	ERDS2TJ472	001 152 2362 4
R35, R36	ERDS2TJ222	001 152 2353 5
R37, R38	ERDS2TJ330	001 152 2355 3
R39, R40	ERDS2TJ472	001 152 2362 4
R41, R42	ERDS2TJ223	001 152 2432 7
R43, R44	ERDS2TJ102	001 152 2346 4
R45, R46	ERDS2TJ332	001 152 2357 1
R47, R48	ERDS2TJ472	001 152 2362 4
R49, R50	ERDS2TJ332	001 152 2357 1
R51, R52	ERDS2TJ472	001 152 2362 4
R53, R54	ERDS2TJ102	001 152 2346 4
R55, R56	ERDS2TJ330	001 152 2355 3
R57, R58	ERDS2TJ472	001 152 2362 4
R59, R60	ERDS2TJ222	001 152 2353 5
R61, R62	ERDS2TJ103	001 152 2347 3
R63, R64	ERDS2TJ103	001 152 2347 3
R65, R66	ERDS2TJ152	001 152 2350 8
R67, R68	ERDS2TJ562	001 152 2445 2
R69, R70	ERDS2TJ472	001 152 2362 4
R73, R74	ERDS2TJ223	001 152 2432 7
R77, R78	ERDS2TJ123	001 152 2424 7
R81, R82	ERDS2TJ222	001 152 2353 5
R84	ERDS2TJ154	001 152 2427 4
R86	ERDS2TJ223	001 152 2432 7
R88	ERDS2TJ473	001 152 2363 3
R107, R108	ERDS2TJ154	001 152 2427 4
R111, R112	ERDS2TJ472	001 152 2362 4
R113, R114	ERDS2TJ472	001 152 2362 4
R115, R116	ERDS2TJ272	001 152 2354 4
R117, R118	ERDS2TJ272	001 152 2354 4
R301, R302	ERDS2TJ1R0	001 152 2419 4
R303	ERDS2TJ473	001 152 2363 3
R304	ERDS2TJ683	001 152 2450 5
R305	ERDS2TJ473	001 152 2363 3
R306	ERDS2TJ683	001 152 2450 5
R307, R308	ERDS2TJ100	001 152 2420 1
R309, R310	ERDS2TJ100	001 152 2420 1
R311, R312	ERDS2TJ561	001 152 2364 2
R313	ERDS2TJ331	001 152 2356 2
R314	ERDS2TJ221	001 152 2431 8
R315	ERDS2TJ222	001 152 2353 5
R316	ERDS2TJ391	001 152 2360 6
R317, R318	ERDS2TJ683	001 152 2450 5
R319	ERDS2TJ221	001 152 2431 8
R320	ERDS2TJ681	001 152 2449 8
R321	ERDS2TJ331	001 152 2356 2
R322	ERDS2TJ681	001 152 2449 8
R401, R402	ERDS2TJ242	001 152 3150 0
R403, R404	ERDS2TJ562	001 152 2445 2
R405, R406	ERDS2TJ332	001 152 2357 1
R407, R408	ERDS2TJ102	001 152 2346 4
R409, R410	ERDS2TJ333	001 152 2358 0
R411, R412	ERDS2TJ823	001 152 2456 9
R413, R414	ERDS2TJ471	001 152 2361 5
R415, R416	ERDS2TJ512	001 152 2596 8
R417, R418	ERDS2TJ683	001 152 2450 5
R419, R420	ERDS2TJ222	001 152 2353 5
R421, R422	ERDS2TJ823	001 152 2456 9
R423, R424	ERDS2TJ331	001 152 2356 2
R425, R426	ERDS2TJ101	001 152 2421 0
R601	ERDS2TJ103	001 152 2347 3
R602	ERDS2TJ182	001 152 2352 6
R605	ERDS2TJ471	001 152 2361 5
R606	ERDS2TJ102	001 152 2346 4
R607	ERDS1FJ4R7	001 152 2631 2
E, EG, EH, XA, XB, PA, PE R607	ERQ14LK2R7P	001 151
EK, XL R608	ERDS1FJ150	001 152 2617 0
E, EG, EH, XA, XB R608	ERD2FCJ6R8	001 152 2481 8
EK, XL R609	ERDS2TJ270	001 152 2434 5
XB, PA, PE R609	ERD2FCG270	001 152 2725 7
EK, XL R610	ERDS2TJ102	001 152 2346 4
R611	ERDS1FJ560	001 152 2635 8
EK, XL R611	ERDS2TJ270	001 152 2434 5
E, EG, EH, XA, XB, PA, PE R612	ERDS1FJ560	001 152 2635 8
EK, XL R612, R613	ERDS2TJ270	001 152 2434 5
E, EG, EH, XA, XB, PA, PE R614	ERDS2TJ270	001 152 2434 5
E, EG, EH, XA, XB, PA, PE R615	ERDS2TJ561	001 152 2364 2
R616, R617	ERQ14LKR22	001 190 0625 4
EK, XL R618	ERQ14LKR22	001 190 0625 4
EK, XL R801	ERG1ANJ390	001 151 0066 2
E, EG, EH, XA, XB R801	ERG3ANJ390	001 151 0238 0
EK, XL R802	ERG1ANJ390	001 151 0066 2
E, EG, EH, XA, XB, PA, PE R802	ERG3ANJ390	001 151 0238 0
EK; XL R803, R804	ERDS2TJ391	001 152 2360 6
R805, R806	ERDS2TJ225	001 152 3149 3
R807, R808	ERDS2TJ103	001 152 2347 3

D

Ref. No.	Part No.	Part Code
R809, R810	ERDS2TJ223	001 152 2432 7
R811, R812	ERDS2TJ103	001 152 2347 3
R813, R814	ERDS2TJ104	001 152 2348 2
R815, R816	ERDS2TJ821	001 152 2454 1
R817, R818	ERX2ANJ220	001 151 0140 9
R819, R820	ERDS2TJ104	001 152 2348 2
R821, R822	ERDS2TJ821	001 152 2454 1
R823, R824	ERDS2TJ104	001 152 2348 2
R825, R826	ERDS2TJ821	001 152 2454 1
R827, R828	ERDS2TJ103	001 152 2347 3
R829, R830	ERDS2TJ102	001 152 2346 4
R831, R832	ERDS2TJ104	001 152 2348 2
R833, R834	ERDS2TJ223	001 152 2432 7
R835, R836	ERDS2TJ681	001 152 2449 8
R837, R838	ERDS2TJ682	001 152 2365 1
R839, R840	ERDS2TJ223	001 152 2432 7
R841, R842	ERDS2TJ681	001 152 2449 8
R843, R844	ERDS2TJ821	001 152 2454 1
R845, R846	ERDS2TJ102	001 152 2346 4
R847, R848	ERDS2TJ102	001 152 2346 4
R901	ERDS2TJ272	001 152 2354 4
R902	ERDS2TJ101	001 152 2421 0
R903	ERDS2TJ223	001 152 2432 7
R904	ERDS2TJ393	001 152 2440 7
R905	ERDS2TJ472	001 152 2362 4
R906	ERDS2TJ102	001 152 2346 4
R907, R908	ERDS2TJ473	001 152 2363 3
R909	ERDS2TJ272	001 152 2354 4
R910, R911	ERDS2TJ103	001 152 2347 3
R912	ERDS2TJ272	001 152 2354 4
R913	ERDS2TJ332	001 152 2357 1
R914, R915	ERDS2TJ103	001 152 2347 3
R916	ERDS2TJ332	001 152 2357 1
R917	ERDS2TJ103	001 152 2347 3
R918, R919	ERDS2TJ563	001 152 2446 1
R920	ERDS2TJ103	001 152 2347 3
R921, R922	ERDS2TJ473	001 152 2363 3
R923	ERDS2TJ393	001 152 2440 7
R926	ERDS2TJ152	001 152 2350 8
R928	ERDS2TJ103	001 152 2347 3
R929	ERDS2TJ562	001 152 2445 2
R931	ERDS2TJ103	001 152 2347 3
R933	ERDS2TJ223	001 152 2432 7
R934	ERDS2TJ103	001 152 2347 3
R935	ERDS2TJ472	001 152 2362 4
R936	ERDS2TJ103	001 152 2347 3
R937	ERDS2TJ223	001 152 2432 7
R940	ERDS2TJ562	001 152 2445 2
R941, R942	ERDS2TJ103	001 152 2347 3
R943, R944	ERDS2TJ223	001 152 2432 7
R945	ERDS2TJ103	001 152 2347 3
R946	ERDS2TJ123	001 152 2424 7
R947	ERDS2TJ103	001 152 2347 3
R948	ERDS2TJ471	001 152 2361 5
R949	ERDS2TJ103	001 152 2347 3
R950, R951	ERDS2TJ102	001 152 2346 4
R952, R953	ERDS2TJ102	001 152 2346 4
R956, R957	ERDS2TJ331	001 152 2356 2
R962	ERDS2TJ222	001 152 2353 5
R963	ERDS2TJ103	001 152 2347 3
R964	ERDS2TJ331	001 152 2356 2
R965	ERDS2TJ473	001 152 2363 3
R966, R969	ERDS2TJ103	001 152 2347 3
R970	ERDS2TJ102	001 152 2346 4
R971	ERDS2TJ473	001 152 2363 3
R974, R975	ERDS2TJ104	001 152 2348 2
R976	ERDS2TJ561	001 152 2364 2
R981	ERDS2TJ473	001 152 2363 3
CAPACITORS		
C1, C2	ECKD1H122KB	001 103 1459 5
C3, C4	ECKD1H122KB	001 103 1459 5
C5, C6	ECCC1H221K	001 103 0508 7
C9, C10	ECKD1H561KB	001 103 1576 1
C11, C12	ECEA0JPU101	001 120 6035 8
C13, C14	ECQB1H123JZ	001 106 3239 2
C15, C16	ECEA1VPS4R7	
C17, C18	RCBS1H181KBY	
C19, C20	ECEA1HKR47	001 120 0338 0
C21, C22	ECEA1HK010	001 120 0341 5
C23, C24	ECEA1HK010	001 120 0341 5
C25, C26	ECQB1H103JZ	001 106 3225 8
C27, C28	ECQB1H103JZ	001 106 3225 8
C29, C30	RCBS1H181KBY	001 103 5595 2
C31, C32	ECQB1H273JZ	001 106 3393 3
C33, C34	ECEA1HKR47	001 120 0338 0
C35, C36	ECQB1H272JZ	001 106 3456 5
C37, C38	ECQB1H223JZ	
C39, C40	ECQB1H123JZ	001 106 3239 2
C41, C42	ECQB1H333JZ	001 106 4846 1
C43, C44	ECQB1H392JZ	001 106 3406 5
C45, C46	ECKD2H121KB	001 103 1635 7
C47, C48	ECKD2H221KB	001 103 1652 6
C49, C50	ECBT1H561KB5	
C51, C52	ECBT1H561KB5	
C53, C54	ECCC1H221K	001 103 0508 7
C55, C56	ECCC1H221K	001 103 0508 7
C57, C58	ECEA1CPS100	001 120 6036 7
C61, C62	ECEA1CPS100	001 120 6036 7
C63, C64	ECEA1HK010	001 120 0341 5
C68	ECEA1HK2R2B	001 120 0346 0
C73	ECKD1H103PF	001 103 1449 7
C301	ECQP1333JZ	001 106 2674 1
C302	ECQP1183JZ	001 106 1083 2
C303, C304	ECKD1H392KB	001 103 1547 6
C305, C306	ECFR1E222KAY	001 108 0942 8
C307, C308	ECFR1E222KAY	001 108 0942 8
C309	ECEA1CU331	001 120 3200 5
C310	ECEA1EU221	001 120 2838 7
C311, C312	ECKD1H103PF	001 103 1449 7
C313, C314	ECFR1E682KAY	
C401, C402	ECCD1H820K	001 103 0703 6
C403, C404	ECQB1H472JZ	001 106 3380 8
C405, C406	ECEA1CKS100	001 120 2600 7
C407, C408	ECQM1H473JZ	001 106 0810 9
C409, C410	ECQV1H224JZ	001 106 3625 6
C411, C412	ECAG25ER68L	001 120 1109 7
C413, C414	ECQB1H103JZ	001 106 3225 8
C415, C416	ECQB1H472JZ	001 106 3380 8
C417, C418	ECEA1CKS100	001 120 2600 7
C419, C420	ECQM1H473JZ	001 106 0810 9
C421, C422	ECQV1H224JZ	001 106 3625 6
C423, C424	ECAG25ER68L	001 120 1109 7
C425, C426	ECKD1H152KB	001 103 1467 5
C427, C428	ECKD1H122KB	001 103 1459 5
C601 ⚠	ECKDKC103PF2	001 103 3734 7
C602	ECEA1EU102	001 120 2705 9
C603	ECEA1VU222	001 120 3272 9
C604	ECKD1H103PF	001 103 1449 7
C605	ECEA1ES332	001 120 3025 2
C606	ECEA1EU102	001 120 2705 9
C607, C608	ECEA1AU221	001 120 3131 1
C609, C610	ECKD1H103PF	001 103 1449 7
C611	ECKD1H103PF	001 103 1449 7
C612	ECEA1CKS100	001 120 2600 7
C613, C614	ECKD1H103PF	001 103 1449 7
C615	ECEA10V1000	001 120 3028 9
C616	ECEA0JU222	001 120 3161 5
C617, C618	ECKD1H103PF	001 103 1449 7
C620	ECEA1HK010	001 120 0341 5
C801, C802	ECEA1CN100S	001 120 0233 8
C803, C804	ECEA1HK010	001 120 0341 5
C805, C806	ECEA1EK4R7	001 120 0294 5
C901	ECQB1H822JZ	001 106 3383 5
C902	ECCD1H470K	001 103 0627 1
C903	ECEA1HK010	001 120 0341 5
C904	ECEA1CKS100	001 120 2600 7
C905	ECKD1H103PF	001 103 1449 7
C906	ECEA1EK4R7	001 120 0294 5
C907	ECEA1AU221	001 120 3131 1
C908, C909	ECCD1H330K	001 103 0567 6
C910	ECEA1EK3R3	001 120 0292 7
C912	ECEA1CKS100	001 120 2600 7
C914	ECKD1H103PF	001 103 1449 7
C915, C916	ECEA1HK010	001 120 0341 5
C917	ECKD1H103PF	001 103 1449 7
C918	ECEA1CK220	001 120 0225 8

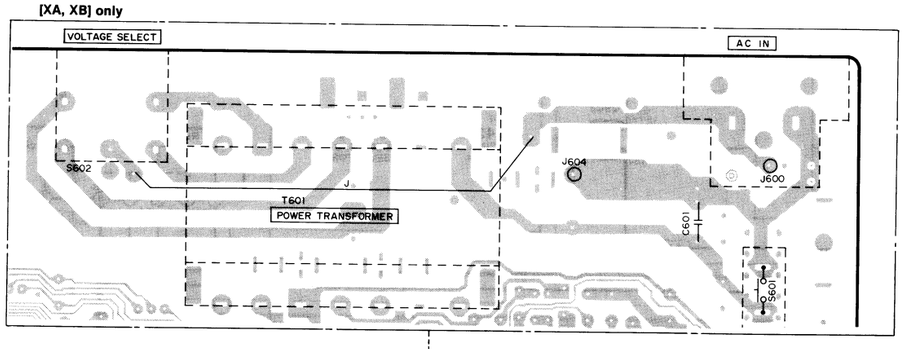
■ WIRING CONNECTION DIAGRAM

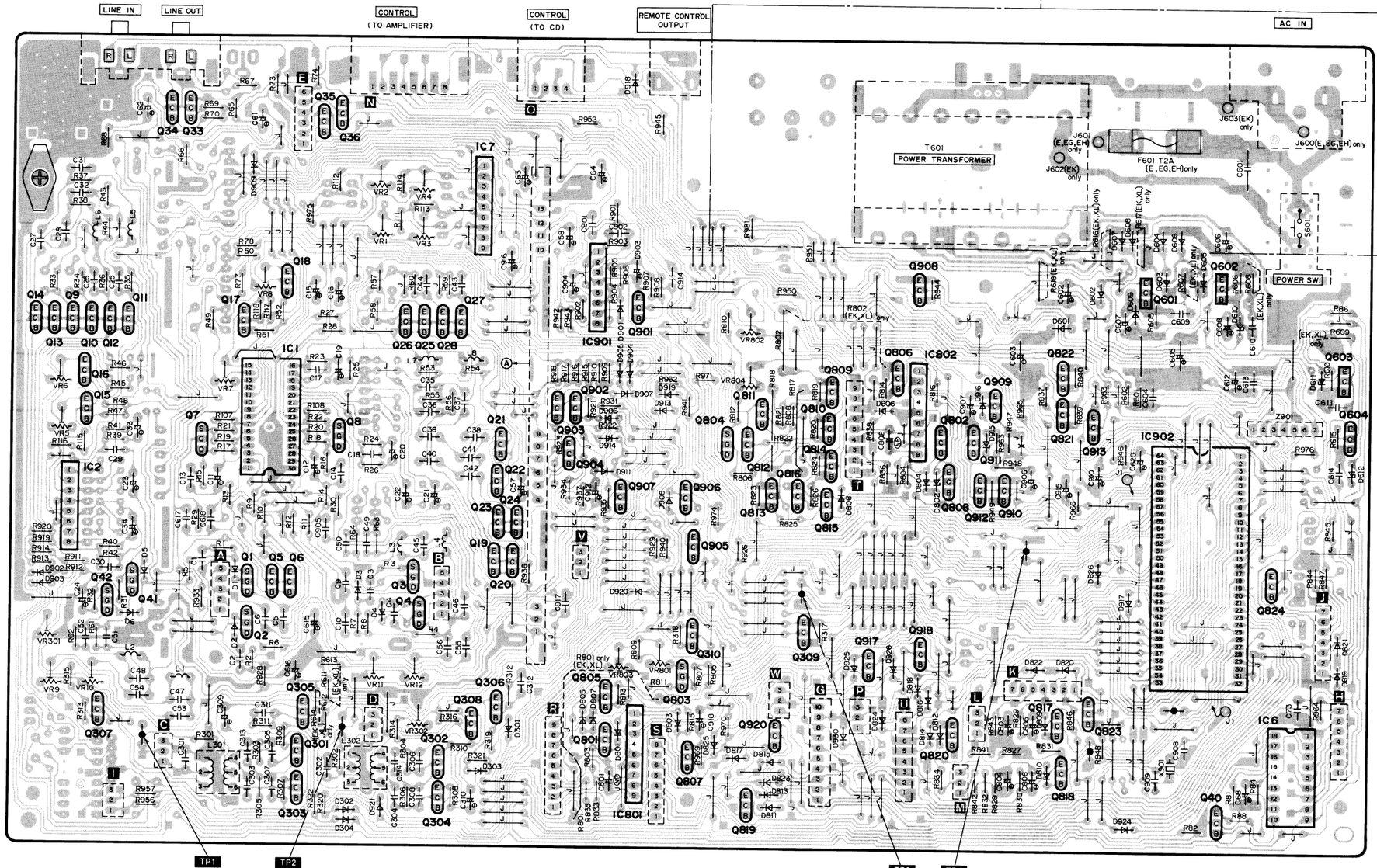


■ PRINTED CIRCUIT BOARDS

I MAIN P.C.B.

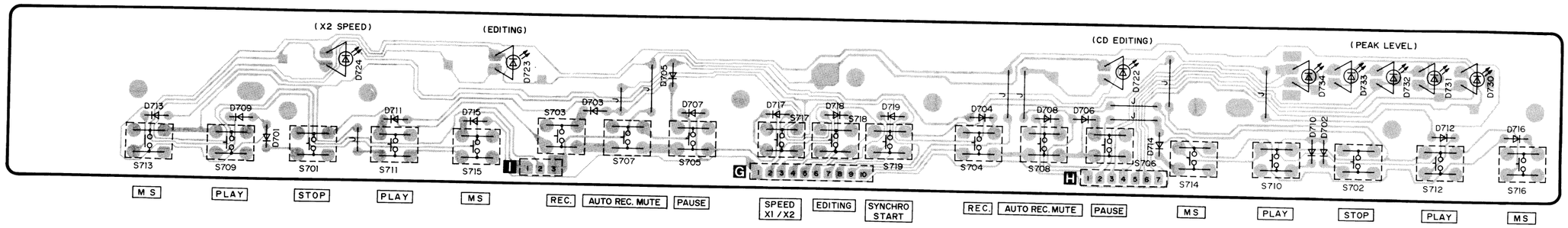
[XA, XB] only



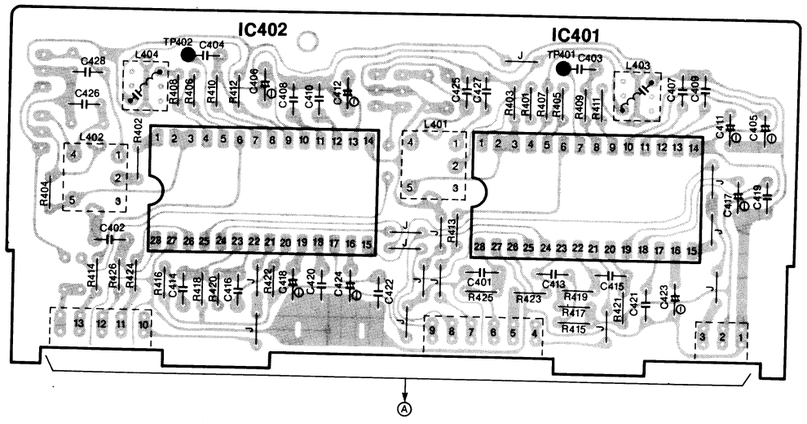


9 10 11 12 13 14 15 16 17 18 19

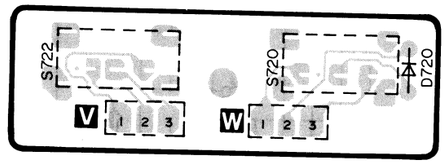
II OPERATION SW P.C.B.



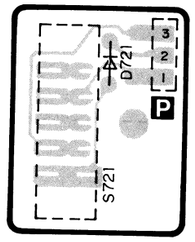
III DOLBY NR P.C.B.



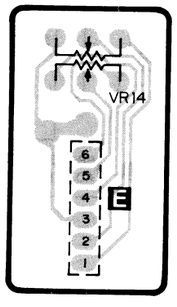
V NR/MODE SW P.C.B.



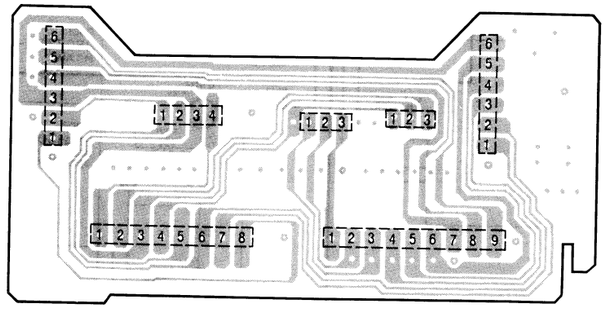
VI TIMER SW P.C.B.



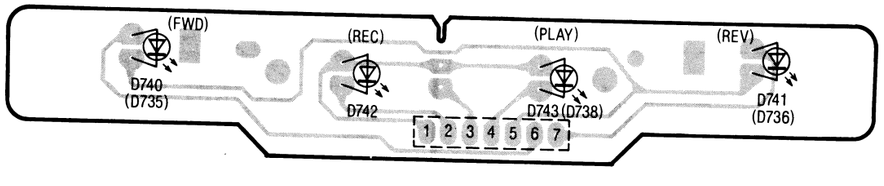
VII VR P.C.B.

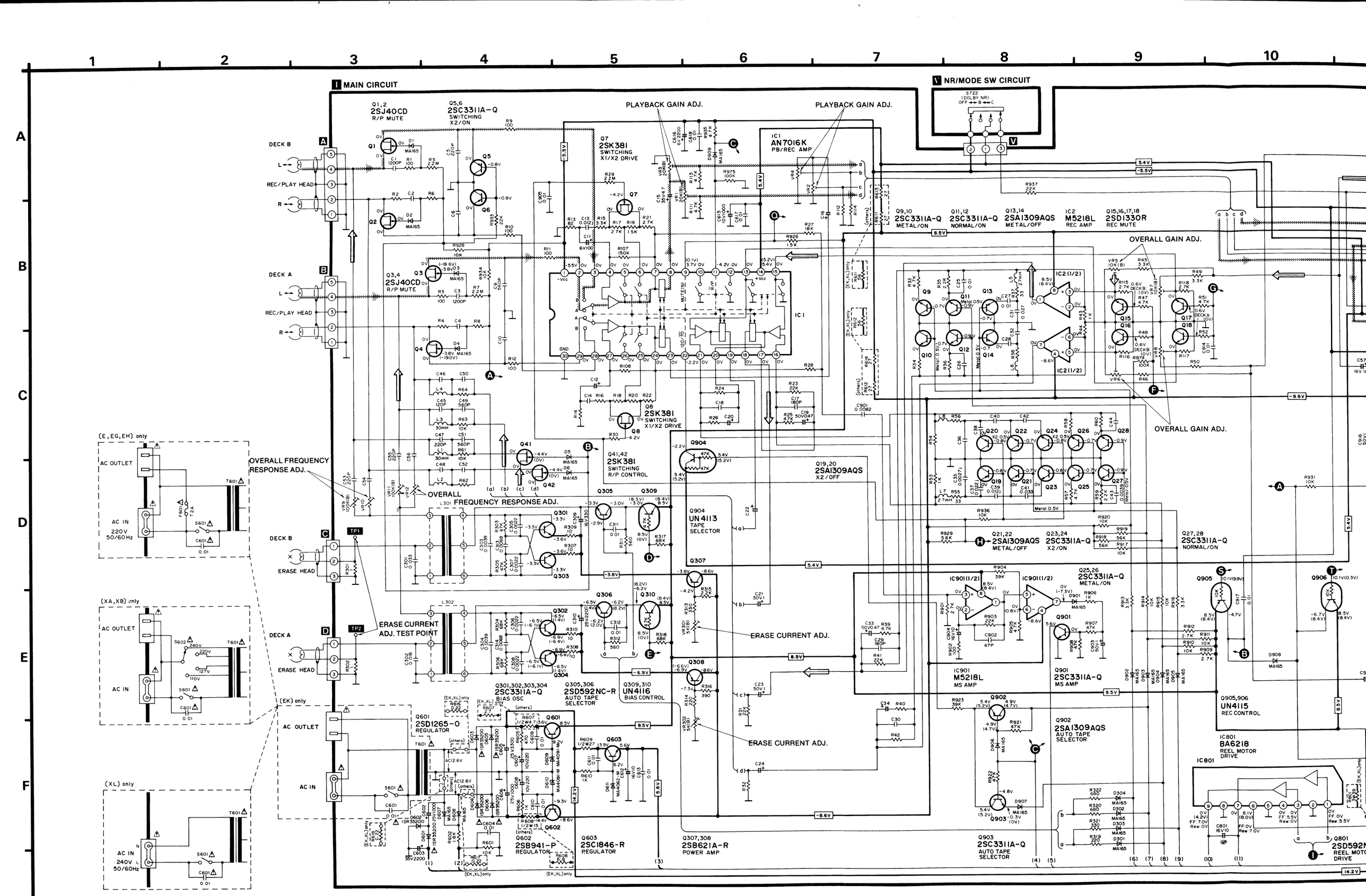


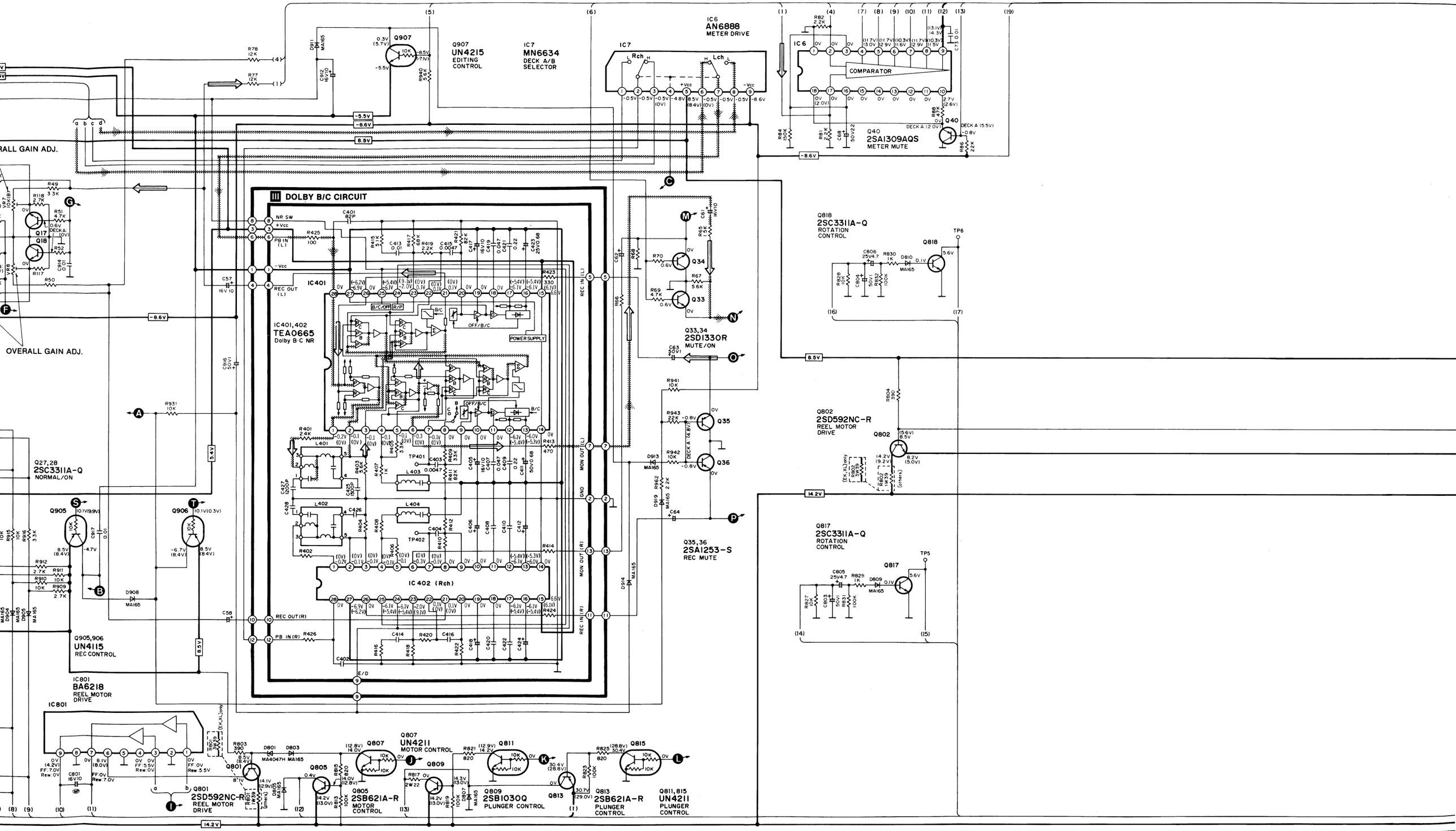
VIII MECHANISM P.C.B. (DECK A / DECK B)

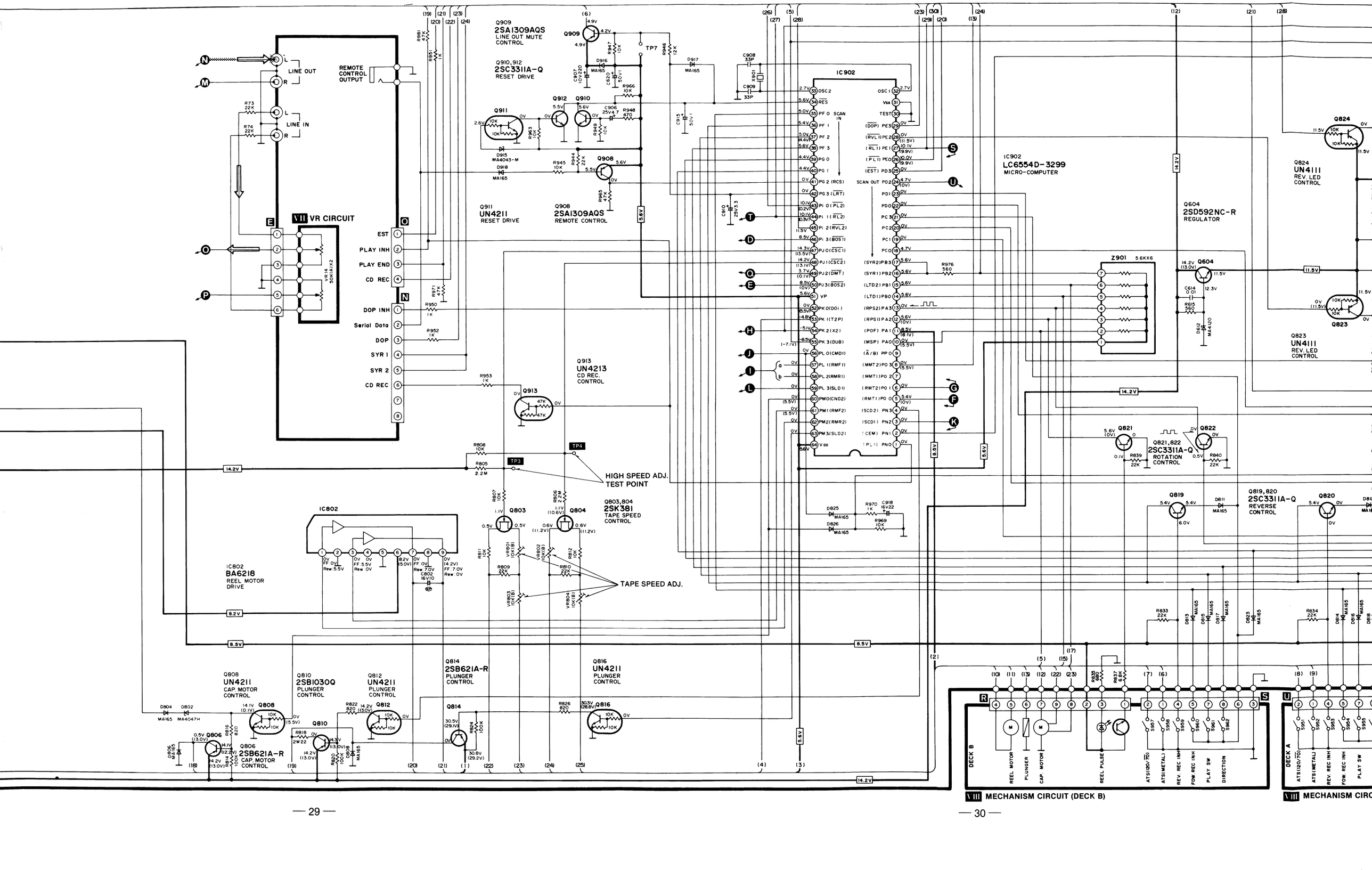


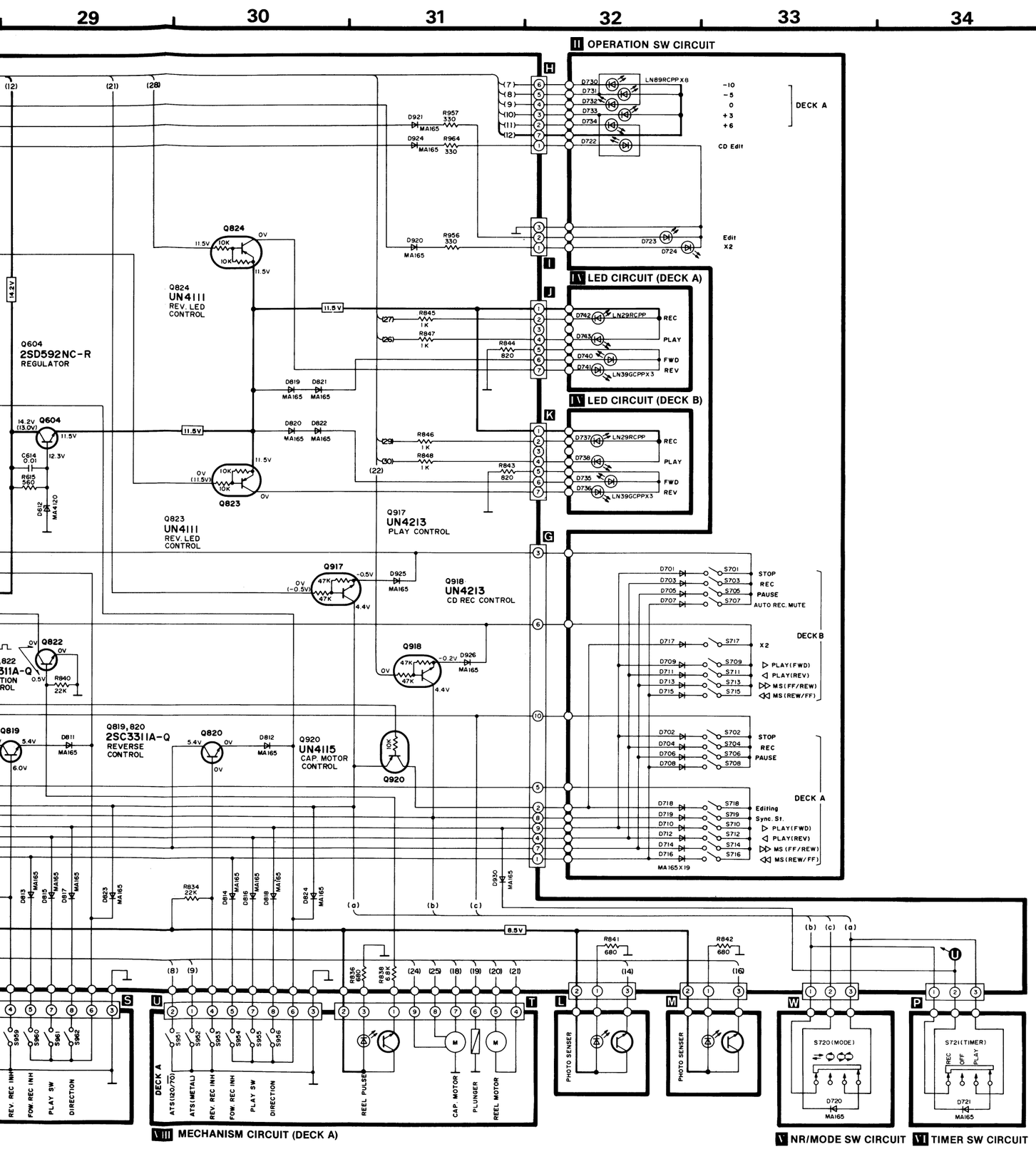
IV LED P.C.B. (DECK A / DECK B)




I MAIN CIRCUIT
NR/MODE SW CIRCUIT
S722 (DOLBY NR) OFF B C
PLAYBACK GAIN ADJ.
PLAYBACK GAIN ADJ.
Q1,2 2SJ40CD R/P MUTE
Q5,6 2SC3311A-Q SWITCHING X2/ON
Q7 2SK381 SWITCHING X1/X2 DRIVE
IC1 AN7016K PB/REC AMP
DECK B
DECK A
REC/PLAY HEAD
Q3,4 2SJ40CD R/P MUTE
Q8 2SK381 SWITCHING X1/X2 DRIVE
Q41,42 2SK381 SWITCHING R/P CONTROL
Q9,10 2SC3311A-Q METAL/ON
Q11,12 2SC3311A-Q NORMAL/ON
Q13,14 2SA1309AQS METAL/OFF
IC2 M5218L REC AMP
Q15,16,17,18 2SD1330R REC MUTE
OVERALL GAIN ADJ.
OVERALL GAIN ADJ.
Q19,20 2SA1309AQS X2/OFF
OVERALL FREQUENCY RESPONSE ADJ.
OVERALL FREQUENCY RESPONSE ADJ.
Q904 UN4113 TAPE SELECTOR
Q305 Q309
Q301 Q303
Q306 Q310
Q302 Q304
ERASE CURRENT ADJ. TEST POINT
ERASE CURRENT ADJ.
ERASE CURRENT ADJ.
Q301,302,303,304 2SC3311A-Q BIAS OSC
Q305,306 2SD592NC-R AUTO TAPE SELECTOR
Q309,310 UN4116 BIAS CONTROL
Q307,308 2SB621A-R POWER AMP
Q21,22 2SA1309AQS METAL/OFF
Q23,24 2SC3311A-Q X2/ON
Q27,28 2SC3311A-Q NORMAL/ON
Q25,26 2SC3311A-Q METAL/ON
IC901(1/2)
IC901 M5218L MS AMP
Q901 2SC3311A-Q MS AMP
Q905 Q906
Q905,906 UN4115 REC CONTROL
Q902 2SA1309AQS AUTO TAPE SELECTOR
IC801 BA6218 REEL MOTOR DRIVE
Q903 2SC3311A-Q AUTO TAPE SELECTOR
Q601 2SD1265-0 REGULATOR
Q602 2SB941-P REGULATOR
Q603 2SC1846-R REGULATOR
(E,EG,EH) only
(XA,XB) only
(EK) only
(XL) only
AC OUTLET
AC IN 220V 50/60Hz
AC IN 240V 50/60Hz
T601
S601
S602
F601 0.24
C601 0.01
240V
220V
127V
110V
5.4V
-5.5V
8.5V
-8.6V
-3.8V
-6.9V
14.2V
5.6V


III DOLBY B/C CIRCUIT
IC401,402
TEA0665
Dolby B·C NR
IC401
IC402 (Rch)
IC6
AN6888
METER DRIVE
COMPARATOR
Q40
2SA1309AQS
METER MUTE
DECK A (5.5V)
DECK A (2.0V)
IC7
MN6634
DECK A/B SELECTOR
Q907
UN4215
EDITING CONTROL
Q905,906
UN4115
REC CONTROL
Q27,28
2SC3311A-Q
NORMAL/ON
Q33,34
2SD1330R
MUTE/ON
Q35,36
2SA1253-S
REC MUTE
Q818
2SC3311A-Q
ROTATION CONTROL
Q817
2SC3311A-Q
ROTATION CONTROL
Q802
2SD592NC-R
REEL MOTOR DRIVE
Q801
2SD592NC-R
REEL MOTOR DRIVE
IC801
BA6218
REEL MOTOR DRIVE
Q807
UN4211
MOTOR CONTROL
Q805
2SB621A-R
MOTOR CONTROL
Q809
2SB1030Q
PLUNGER CONTROL
Q813
2SB621A-R
PLUNGER CONTROL
Q811,815
UN4211
PLUNGER CONTROL
OVERALL GAIN ADJ.
-5.5V
-8.6V
8.5V
5.4V
14.2V
REC OUT (L)
PB IN (L)
REC IN (L)
REC OUT (R)
PB IN (R)
REC IN (R)
MON OUT (L)
MON OUT (R)
GND
E/D
POWER SUPPLY
B/C
OFF/B/C
B/C/OFF
R/P


LINE OUT
LINE IN
REMOTE CONTROL OUTPUT
VII VR CIRCUIT
VR1-4 50K(A)X2
EST
PLAY INH
PLAY END
CD REC
DOP INH
Serial Data
DOP
SYR 1
SYR 2
CD REC
Q909 2SA1309AQS LINE OUT MUTE CONTROL
Q910,912 2SC3311A-Q RESET DRIVE
Q911 UN4211 RESET DRIVE
Q908 2SA1309AQS REMOTE CONTROL
Q913 UN4213 CD REC. CONTROL
TP7
TP4
TP3
HIGH SPEED ADJ. TEST POINT
TAPE SPEED ADJ.
IC802 BA6218 REEL MOTOR DRIVE
Q803,804 2SK381 TAPE SPEED CONTROL
Q808 UN4211 CAP. MOTOR CONTROL
Q806 2SB621A-R CAP. MOTOR CONTROL
Q810 2SB1030Q PLUNGER CONTROL
Q812 UN4211 PLUNGER CONTROL
Q814 2SB621A-R PLUNGER CONTROL
Q816 UN4211 PLUNGER CONTROL
IC902 LC6554D-3299 MICRO-COMPUTER
SCAN IN
SCAN OUT
Q604 2SD592NC-R REGULATOR
Q824 UN4111 REV. LED CONTROL
Q823 UN4111 REV. LED CONTROL
Q821,822 2SC3311A-Q ROTATION CONTROL
Q819,820 2SC3311A-Q REVERSE CONTROL
Z901 5.6KX6
DECK B
REEL MOTOR
PLUNGER
CAP. MOTOR
REEL PULSE
ATS1(120/70)
ATS1(METAL)
REV. REC INH
FOW. REC INH
PLAY SW
DIRECTION
DECK A
VIII MECHANISM CIRCUIT (DECK B)
VIII MECHANISM CIRC



■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

- **S601** : Power switch in "**off**" position.
- **S602** : Voltage selector in "**240V**" position ([XA], [XB] area only)
- **S701** : DECK [B] Stop switch in "**off**" position.
- **S702** : DECK [A] Stop switch in "**off**" position.
- **S703** : DECK [B] Rec. switch in "**off**" position.
- **S704** : DECK [A] Rec. switch in "**off**" position.
- **S705** : DECK [B] Pause switch in "**off**" position.
- **S706** : DECK [A] Pause switch in "**off**" position.
- **S707** : DECK [B] Auto rec. mute switch in "**off**" position.
- **S708** : DECK [A] Auto rec. mute switch in "**off**" position.
- **S709** : DECK [B] Fow. Play switch in "**off**" position.
- **S710** : DECK [A] Fow. Play switch in "**off**" position.
- **S711** : DECK [B] Rev. Play switch in "**off**" position.
- **S712** : DECK [A] Rev. Play switch in "**off**" position.
- **S713** : DECK [B] FF/Rew switch in "**off**" position.
- **S714** : DECK [A] FF/Rew switch in "**off**" position.
- **S715** : DECK [B] Rew/FF switch in "**off**" position.
- **S716** : DECK [A] Rew/FF switch in "**off**" position.
- **S717** : Editing tape speed selector in "**X1**" position.
- **S718** : Editing switch in "**off**" position.
- **S719** : Synchrostart switch in "**off**" position.
- **S720** : Reverse mode selector in "⇄" position.
- **S721** : Timer stand-by switch in "**REC**" position.
- **S722** : Dolby NR switch in "**off**" position.
- **S951** : DECK [A] ATS (70/120μs) switch in "**off**" position.
- **S952** : DECK [A] ATS (Metal/CrO_2) switch in "**off**" position.
- **S953** : DECK [A] Rev. Rec. inhibit switch in "**off**" position.
- **S954** : DECK [A] Fow. Rec. inhibit switch in "**off**" position.
- **S955** : DECK [A] Play switch in "**off**" position.
- **S956** : DECK [A] Direction switch in "**off**" position.
- **S957** : DECK [B] ATS (70/120μs) switch in "**off**" position.
- **S958** : DECK [B] ATS (Metal/CrO_2) switch in "**off**" position.
- **S959** : DECK [B] Rev. Rec. inhibit switch in "**off**" position.
- **S960** : DECK [B] Fow. Rec. inhibit switch in "**off**" position.
- **S961** : DECK [B] Play switch in "**off**" position.
- **S962** : DECK [B] Direction switch in "**off**" position.

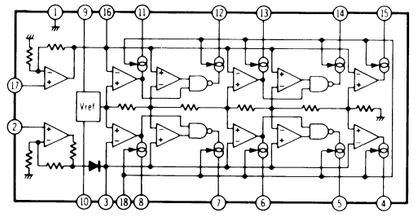
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise. 1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
- Important safety notice
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

( ) ..... Voltage values at record mode.
X2 ..... Voltage values at Editing speed X2 mode.
Me ..... Voltage values at Metal tape mode.
B ..... Voltage values at Dolby B NR mode.
C ..... Voltage values at Dolby C NR mode.
Edit ..... Voltage values at Editing mode.
DECK B ..... Voltage values at DECK B Playback.
For measurement us EVM.

- (—▭—) indicates B (bias).
- (▨) indicates the flow of the playback signal.
- (⟹) indicates the flow of the record signal.

■ EQUIVALENT CIRCUIT

IC6: AN6888



■ SPECIFICATIONS

* Input level control ...MAX

Playback S/N ratio * Test tape...QZZCFM	Greater than 45dB
Overall distortion * Test tape ...QZZCRA for Normal ...QZZCRX for CrO_2 ...QZZCRZ for Metal	Normal..... Less than 3.5% CrO2, Metal..... Less than 4%
Overall S/N ratio * Test tape...QZZCRA	Greater than 43dB (without NAB filter)

＊ Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

* Cover the parts boxes made of plastics with aluminum foil.
* Ground the soldering iron.
* Put a conductive mat on the work table.
* Do not touch the legs of IC or LSI with the fingers directly.

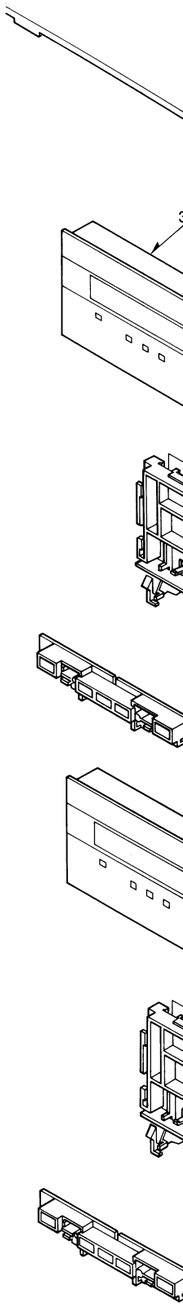
■ REPLACEMENT PARTS LIST

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

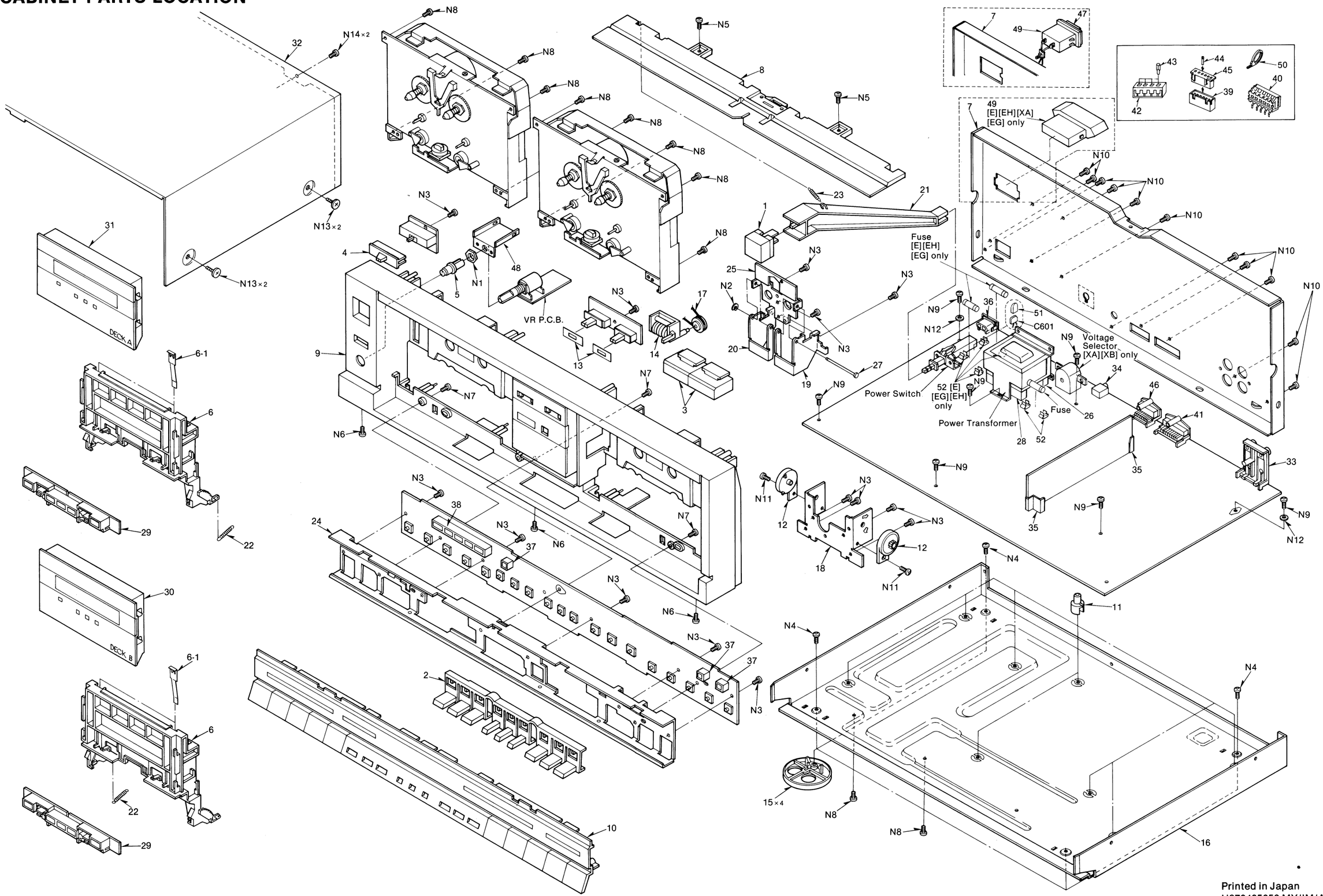
* Bracketed indications in Ref. No. columns specify the area.
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Code	Description
INTEGRATED CIRCUITS			
IC1	AN7016K	001 061 4629 4	I.C. PB/REC AMP.
IC2	M5218L	001 060 3798 7	I.C., OPERATION AMP.
IC6	AN6888	001 060 7693 9	I.C. METER DRIVE
IC7	MN6534	001 061 0884 7	I.C. SWITCH
IC401, IC402	TEA0665	001 060 7933 2	I.C. DOLBY NR
IC801, IC802	BA6218	001 061 1421 0	I.C., MOTOR DRIVE
IC901	M5218L	001 060 3798 7	I.C., OPERATION AMP.
IC902	LC6554D-3299	001 061 4771 9	I.C. MICRO COMPUTER
TRANSISTORS			
Q1, Q2	2SJ40CD	001 030 2807 5	TRANSISTOR
Q3, Q4	2SJ40CD	001 030 2807 5	TRANSISTOR
Q5, Q6	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q7, Q8	2SK381	001 030 4439 1	TRANSISTOR
Q9, Q10	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q11, Q12	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q13, Q14	2SA1309AQS	001 030 4846 0	TRANSISTOR
Q15, Q16	2SD1330R	001 030 2521 6	TRANSISTOR
Q17, Q18	2SD1330R	001 030 2521 6	TRANSISTOR
Q19, Q20	2SA1309AQS	001 030 4846 0	TRANSISTOR
Q21, Q22	2SA1309AQS	001 030 4846 0	TRANSISTOR
Q23, Q24	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q25, Q26	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q27, Q28	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q33, Q34	2SD1330R	001 030 2521 6	TRANSISTOR
Q35, Q36	2SA1253-S	001 030 4843 3	TRANSISTOR
Q40	2SA1309AQS	001 030 4846 0	TRANSISTOR
Q41, Q42	2SK381	001 030 4439 1	TRANSISTOR
Q301, Q302	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q303, Q304	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q305, Q306	2SD592NC-R	001 030 1759 0	TRANSISTOR
Q307, Q308	2SB621A-R	001 030 0668 6	TRANSISTOR
Q309, Q310	UN4116	001 030 4834 4	TRANSISTOR
Q601	2SD1265-0	001 030 2652 6	TRANSISTOR
Q602	2SB941-P	001 030 2696 4	TRANSISTOR
Q603	2SC1846-R	001 030 1134 7	TRANSISTOR
Q604, Q801	2SD592NC-R	001 030 1759 0	TRANSISTOR
Q802	2SD592NC-R	001 030 1759 0	TRANSISTOR
Q803, Q804	2SK381	001 030 4439 1	TRANSISTOR
Q805, Q806	2SB621A-R	001 030 0668 6	TRANSISTOR
Q807, Q808	UN4211	001 030 4033 9	TRANSISTOR
Q809, Q810	2SB1030Q	001 030 4131 8	TRANSISTOR
Q811, Q812	UN4211	001 030 4033 9	TRANSISTOR
Q813, Q814	2SB621A-R	001 030 0668 6	TRANSISTOR
Q815, Q816	UN4211	001 030 4033 9	TRANSISTOR
Q817, Q818	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q819, Q820	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q821, Q822	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q823, Q824	UN4111	001 030 2899 5	TRANSISTOR
Q901	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q902	2SA1309AQS	001 030 4846 0	TRANSISTOR
Q903	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q904	UN4113	001 030 2900 9	TRANSISTOR
Q905, Q906	UN4115	001 030 4833 5	TRANSISTOR
Q907	UN4215	001 030 4836 2	TRANSISTOR
Q908, Q909	2SA1309AQS	001 030 4846 0	TRANSISTOR
Q910	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q911	UN4211	001 030 4033 9	TRANSISTOR
Q912	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q913, Q917	UN4213	001 030 3020 8	TRANSISTOR
Q918	UN4213	001 030 3020 8	TRANSISTOR
Q920	UN4115	001 030 4833 5	TRANSISTOR
DIODES			
D1, D2	MA165	001 032 0494 0	DIODE
D3, D4	MA165	001 032 0494 0	DIODE
D5, D6	MA165	001 032 0494 0	DIODE
D301, D302	MA165	001 032 0494 0	DIODE
D303, D304	MA165	001 032 0494 0	DIODE
D601, D602 ⚠	SVD1SR35200A	001 032 3951 4	RECTIFIER
D603, D604 ⚠	SVD1SR35200A	001 032 3951 4	RECTIFIER
D605, D606 ⚠	SVD1SR35200A	001 032 3951 4	RECTIFIER
D607, D608	MA165	001 032 0494 0	DIODE
D609, D610	MA4091-M	001 032 7213 5	DIODE
D611	MA4062-M	001 032 7211 7	DIODE
D612	MA4120	001 032 7292 0	DIODE
D701, D702	MA165	001 032 0494 0	DIODE
D703, D704	MA165	001 032 0494 0	DIODE
D705, D706	MA165	001 032 0494 0	DIODE
D707, D708	MA165	001 032 0494 0	DIODE
D709, D710	MA165	001 032 0494 0	DIODE
D711, D712	MA165	001 032 0494 0	DIODE
D713, D714	MA165	001 032 0494 0	DIODE
D715, D716	MA165	001 032 0494 0	DIODE
D717, D718	MA165	001 032 0494 0	DIODE
D719, D720	MA165	001 032 0494 0	DIODE
D721	MA165	001 032 0494 0	DIODE
D722, D723	LN89RCPP	001 032 7930 3	LED
D724, D730	LN89RCPP	001 032 7930 3	LED
D731, D732	LN89RCPP	001 032 7930 3	LED
D733, D734	LN89RCPP	001 032 7930 3	LED
D735, D736	LN39GCPP	001 032 5729 0	LED
D737	LN29RCPP	001 032 5758 5	LED
D738, D740	LN39GCPP	001 032 5729 0	LED
D741	LN39GCPP	001 032 5729 0	LED
D742	LN29RCPP	001 032 5758 5	LED
D743	LN39GCPP	001 032 5729 0	LED
D801, D802	MA4047H	001 032 8141 0	DIODE
D803, D804	MA165	001 032 0494 0	DIODE
D805, D806	MA165	001 032 0494 0	DIODE
D807, D808	MA165	001 032 0494 0	DIODE
D809, D810	MA165	001 032 0494 0	DIODE
D811, D812	MA165	001 032 0494 0	DIODE
D813, D814	MA165	001 032 0494 0	DIODE
D815, D816	MA165	001 032 0494 0	DIODE
D817, D818	MA165	001 032 0494 0	DIODE
D819, D820	MA165	001 032 0494 0	DIODE
D821, D822	MA165	001 032 0494 0	DIODE
D823, D824	MA165	001 032 0494 0	DIODE
D825, D826	MA165	001 032 0494 0	DIODE
D901, D902	MA165	001 032 0494 0	DIODE
D903, D904	MA165	001 032 0494 0	DIODE
D905, D906	MA165	001 032 0494 0	DIODE
D907, D908	MA165	001 032 0494 0	DIODE
D909, D911	MA165	001 032 0494 0	DIODE
D913, D914	MA165	001 032 0494 0	DIODE
D915	MA4043M	001 032 5574 1	DIODE
D916, D917	MA165	001 032 0494 0	DIODE
D918, D919	MA165	001 032 0494 0	DIODE
D920, D921	MA165	001 032 0494 0	DIODE
D924, D925	MA165	001 032 0494 0	DIODE
D926, D930	MA165	001 032 0494 0	DIODE
VARIABLE RESISTORS			
VR1, VR2	EVND4AA00B24	001 180 2244 1	20KΩ (B)
VR3, VR4	EVND4AA00B24	001 180 2244 1	20KΩ (B)
VR5, VR6	EVND4AA00B14	001 180 2242 3	10KΩ (B)
VR7, VR8	EVND4AA00B14	001 180 2242 3	10KΩ (B)
VR9, VR10	EVND4AA00B15	001 180 2243 2	100KΩ (B)
VR11, VR12	EVND4AA00B15	001 180 2243 2	100KΩ (B)
VR14	EVJRKA025A54	001 174 8992 4	INPUT LEVEL, 500KΩ (A) × 2
VR301, VR302	EVND4AA00B53	001 180 2319 9	5KΩ (B)
VR801, VR802	EVND4AA00B14	001 180 2242 3	10KΩ (B)
VR803, VR804	EVN4LCA00B14	001 180 3116 4	10KΩ (B)
COILS AND TRANSFORMERS			
L1, L2	SLQX303-1K	001 211 1756 6	CHOKE COIL
L3, L4	SLQX303-1K	001 211 1756 6	CHOKE COIL
L5, L6	SLQX272-1YT	001 211 0649 2	CHOCK COIL
L7, L8	SLQX272-1YT	001 211 0649 2	CHOCK COIL
L301, L302	SL09C19-K	001 211 2472 1	OSCILLATOR COIL
L401, L402	QLB40048	001 210 7275 9	COIL
L403, L404	ELM7Q306A	001 210 6560 1	COIL
T601 ⚠ E, EG, EH	SLT5V11-S	001 202 9027 1	POWER TRANSFORMER
T601 ⚠ EK, XL	SLT5V12-S	001 202 9028 0	POWER TRANSFORMER
T601 ⚠ XA, XB	SLT5V13-S	001 202 9041 3	POWER TRANSFORMER
COMPONENT COMBINATIONS			
Z901	EXBF7E562J	001 230 1578 9	COMPONENT COMBINATION 5.6KΩ × 6
OSCILLATORS			
X901	SVFCSA300MG	001 241 1296 5	CERAMIC FILTER
FUSES			
F601 ⚠ E, EG, EH	XBAS2A2001	002 380 0410 1	FUSE, 250V, T2A
SWITCHES			
S601 ⚠	ESB8249V	003 435 5877 0	POWER SWITCH
S602 ⚠ XA, XB	SSR187-1	003 430 2201 5	SW, VOLTAGE SELECT
S701, S702	EVQQAC05G	003 439 2072 1	SW
S703, S704	EVQQAC05G	003 439 2072 1	SW
S705, S706	EVQQAC05G	003 439 2072 1	SW
S707, S708	EVQQAC05G	003 439 2072 1	SW
S709, S710	EVQQAC05G	003 439 2072 1	SW
S711, S712	EVQQAC05G	003 439 2072 1	SW
S713, S714	EVQQAC05G	003 439 2072 1	SW
S715, S716	EVQQAC05G	003 439 2072 1	SW
S717, S718	EVQQAC05G	003 439 2072 1	SW
S719	EVQQAC05G	003 439 2072 1	SW
S720	SSS157	003 431 3020 9	SWITCH SLIDE
S721	SSS147	003 431 3301 3	SWITCH SLIDE
S722	SSS157	003 431 3020 9	SWITCH SLIDE
CABINET AND CHASSIS			
1	SBC666-1	016 702 6076 0	BUTTON
2	SBC934	016 702 6947 8	BUTTON
3	SBC935	016 702 6946 9	BUTTON
4	SBD143	016 700 1971 8	KNOB
5	SBN1222	016 700 1970 9	KNOB
6	SGXSX866-KE		ORNAMENT
6-1	QBP2006A	015 727 0706 8	SPRING
7 XB	SGP7060-11A	016 840 7780 8	REAR PANEL
7 EG, EH	SGP7060-3A	016 840 7770 0	REAR PANEL
7 E	SGP7060-3B	016 840 7779 1	REAR PANEL
7 EK	SGP7060-5A	016 840 7771 9	REAR PANEL
7 XA	SGP7060-7A	016 840 7778 2	REAR PANEL
7 XL	SGP7060-9A	016 840 7777 3	REAR PANEL
8	SGX9030	016 846 3729 7	SPACER
9	SGYSX888-KE	016 840 7782 6	FRONT PANEL
10	SGYSX888-KE1	016 840 7783 5	SUB PANEL
11	SHE187-1	016 918 0584 9	SPACER
12	SMQSX840-KN	016 745 0225 0	GEAR
13	SHR5312	016 652 0550 6	SPACER
14	SJN25	016 892 0127 9	TAPE COUNTER
15	SKL307	016 828 0325 7	FOOT
16	SKU11651-1	016 802 2194 4	BOTTOM BOARD
17	SMQ20020	016 754 0062 0	ANGULAR BELT
18	SMQ30042	016 650 5347 7	ANGLE
19	SMQ30043	016 718 3375 8	ANGLE
20	SMQ30044	016 718 3374 9	ANGLE
21	SUB264	016 712 0354 5	ROD
22	SUS851	016 726 0931 8	SPRING
23	SUS852	016 726 0930 9	COIL SPRING
24	SUW3060	016 650 5346 8	ANGLE
25	SUW3061	016 650 5345 9	ANGLE
26	SJS703	003 403 7104 8	CONNECTOR
27	SUX58	016 634 0144 8	BRACING STRUT
28	SJS309	003 403 7102 0	CONNECTOR
29	LN041368P	001 033 0249 6	DIODE, GAASP
30	SGXSX888-KE	016 846 3836 5	CASSETTE LID (DECK B)
31	SGXSX888-KE1	016 846 3835 6	CASSETTE LID (DECK A)
32	SKC2070K96	016 800 3038 1	CABINET
33	SJF3057N	003 410 3829 3	TERMINAL BOARD
34	SJJ130-2	003 400 7317 2	JACK
35	SME103-4	016 601 0460 2	SHIELD PARTS
36 ⚠ XL	SJSD16	003 400 7436 6	AC SOCKET
36 ⚠ EK, E, EG, EH, XA, XB	SJS9236	003 403 4660 7	AC SOCKET
37	LN018365P	001 032 9923 4	DIODE, GAASP
38	LN058367P	001 032 9434 6	DIODE, GAASP
39	SJT3319	003 403 3892 7	CONNECTOR
39	SJT3511	003 403 3893 6	CONNECTOR
39	SJT3611	003 410 6000 8	CONNECTOR
39	SJT3709	003 403 4232 3	CONNECTOR
40	SJT30340LX-V	003 410 6075 9	LUG TERMINAL
40	SJT30740LX-V	003 410 5990 7	LUG TERMINAL
40	SJT31040LX-V	003 410 6112 1	LUG TERMINAL
41	SJS804	003 403 4910 8	CONNECTOR
42	SJS5633	003 400 5929 8	CONNECTOR
43	SJT785	003 410 6015 1	CONTACT
44	SJT783	003 410 6001 7	CONTACT
45	SJS5331	003 400 5924 3	CONNECTOR
45	SJS5629	003 400 5917 2	CONNECTOR
45	SJS5707	003 400 1663 1	CONNECTOR
46	SJS402	003 403 7103 9	CONNECTOR
47 EK	SJS9332A	003 403 7376 6	CONNECTOR
48	SUW3075		SHIELD COVER
49 ⚠ E, EG, EH, XA,	SJS9225	003 400 3946 5	AC OUTLET
49 ⚠ EK	SJS9332B	003 403 7377 5	CONNECTOR
50	SHR301	016 645 0044 0	CLAMPER
51	SMX897	016 600 0483 0	SHIELD SPACER
52 E, EG, EH	SJT390	003 410 7350 5	FUSE HOLDER
SCREWS, WASHERS & NUTS			
N1	XNS7	005 507 0569 4	NUT
N2	XUC2FT	005 512 0126 6	E-RING
N3	XTB3+8J	005 501 1535 0	SCREW
N4	XTB3+8G	005 501 2607 7	SCREW
N5	XTB3+8FFR	005 501 3569 2	SCREW
N6	XTB3+8JFZ	005 501 0138 3	SCREW
N7	XTB3+12J	005 501 1534 1	SCREW
N8	XTB3+12JFR	005 501 2752 9	SCREW
N9	XTB3+20J	005 501 3410 4	SCREW
N11	XTS3+8J	005 501 0712 5	SCREW
N12	XWA3BFZ	005 513 1250 4	WASHER
N13	SNE2129-1	005 500 7938 6	SCREW
N14	XTBS3+8JFZ1	005 501 2523 0	SCREW
PACKINGS			
P1	SPG5932	016 971 5056 7	PACKING CASE
P2	SPS4919-1	016 977 3273 8	PAD
P3	SPS4920	016 977 3266 7	PAD
P4	SPS4983	016 977 3319 1	PAD
P5	SPP753	016 978 0504 9	PROTECTION COVER
ACCESSORIES			
A1 E, EH	SQF12914	016 983 5169 3	INSTRUCTION BOOK
A1 EK	SQF12915	016 983 5168 4	INSTRUCTION BOOK
A1 EG	SQF12916	016 983 5183 5	INSTRUCTION BOOK
A1 XA, XB	SQF12933	016 983 5182 6	INSTRUCTION BOOK
A1 XL	SQF12934	016 983 5184 4	INSTRUCTION BOOK
A2	SJP2264	003 492 5035 3	CORD
A3	SJPK2202	003 492 6415 1	CORD
A4	SWKSX888-KE		CONNECTION CORD
A5	SWKSX888-KE1	016 934 0175 0	CONNECTION CORP
A6 ⚠ E, EG, EH	SFDAC05E03	003 490 4809 5	POWER CORD
A6 ⚠ XA	SJA168-1	003 490 4122 9	POWER CORD
A6 ⚠ XL	SJA173	003 490 4161 2	POWER CORD
A6 ⚠ XB	SJA183	003 490 4873 7	POWER CORD
A6 ⚠ EK	SJA188	003 490 5443 1	POWER CORD
A7 ⚠ XA, XB	SJP9215	003 402 1437 9	AC PLUG ADAPTOR

■ CABINET PA



■ CABINET PARTS LOCATION



Printed in Japan
H870405650 MY/IM/AM

ORDER NO. HAD8711340S8

Service Manual

Supplement

Cassette Deck

Dolby B • C NR-Equipped
Stereo Double Cassette Deck

RS-X888

Please file and use this supplement manual together with the service manual for Model No. RS-X844, Order No. HAD8704078C8.

Note:

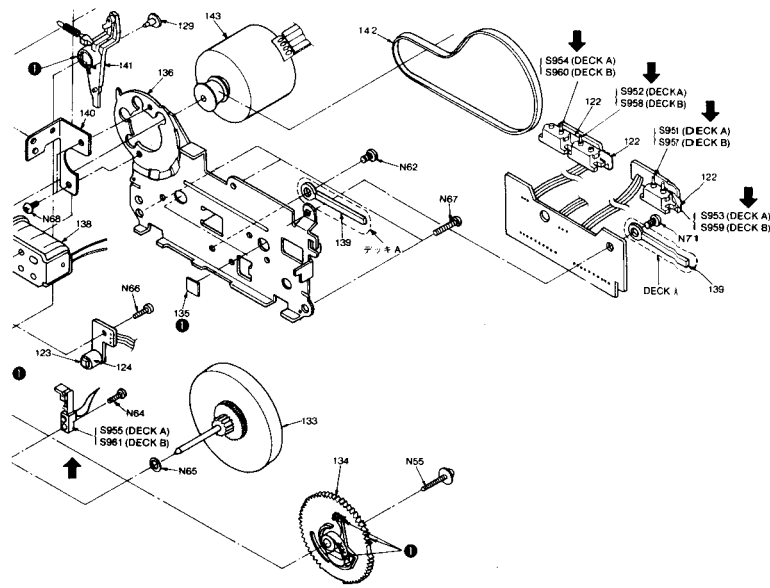
• Addition parts in the replacement parts list are shown by arrow (➡).

ADDITION

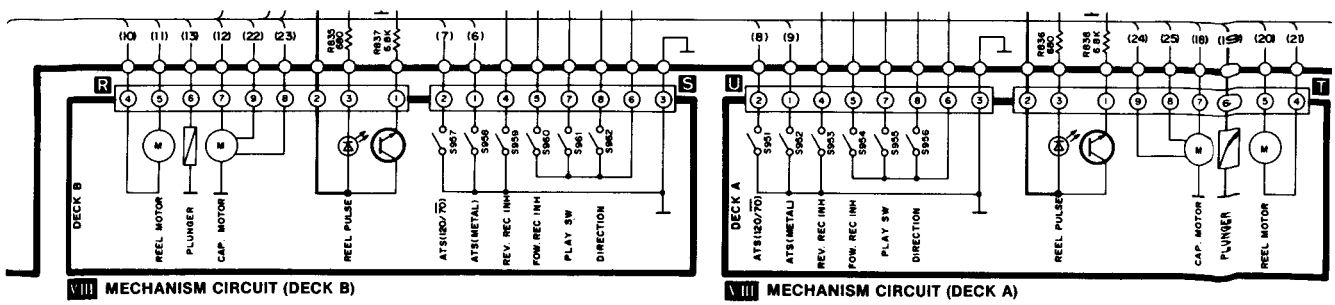
■ REPLACEMENT PARTS LIST

Ref No.	Part No.	Description
SWITCHES		
S951, 957	SMQA1058	ATS (70/120μs)
S952, 958	SMQA1059	ATS (METAL)
S953, 959	SMQA1058	REV REC
S954, 960	SMQA1040	FOW REC
S955, 961	SMQA1023	PLAY
S956, 962	SMQA1023	DIRECTION

• MECHANICAL PARTS LOCATION (PAGE 16)



• SCHEMATIC DIAGRAM (PAGE 30)



MECHANISM CIRCUIT (DECK B)

MECHANISM CIRCUIT (DECK A)

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

Printed in Japan
H871 107750 IM

ORDER NO. HAD8711339S8

Service Manual

Supplement

Cassette Deck

Dolby B • C NR-Equipped
Stereo Double Cassette Deck

RS-X866

Please file and use this supplement manual together with the service manual for Model No. RS-X866, Order No. HAD8705103C8.

Note:

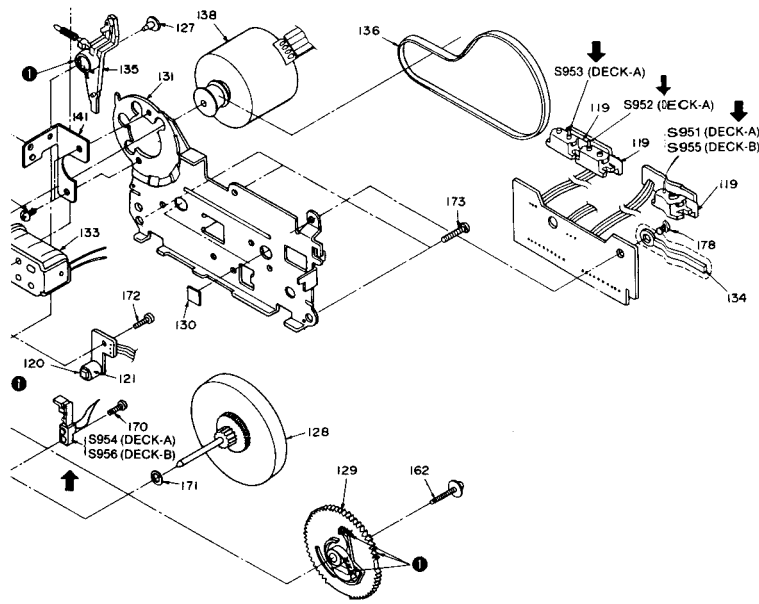
• Addition parts in the replacement parts list are shown by arrow (➡).

ADDITION

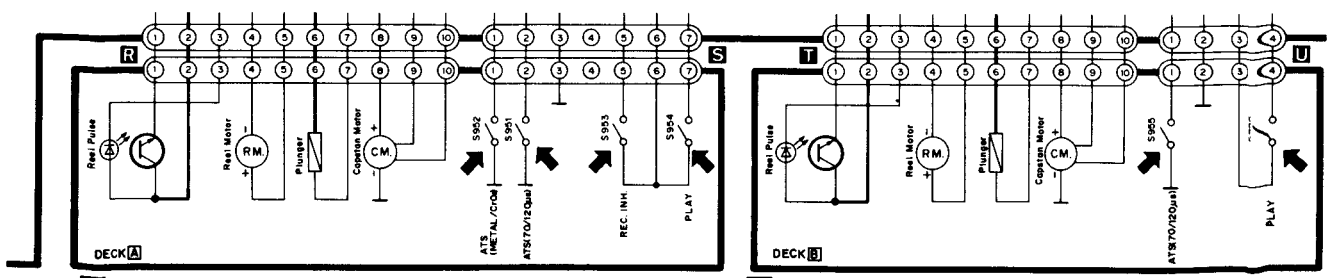
■ REPLACEMENT PARTS LIST

Ref No.	Part No.	Description
SWITCHES		
S951	SMQA1059	ATS (70/120μs)
S952	SMQA1059	ATS (M/cro$_2$)
S953	SMQA1040	REC
S954	SMQA1023	PLAY
S955	SMQA1059	ATS (70/120μs)
S956	SMQA1023	PLAY

• MECHANICAL PARTS LOCATION (PAGE 16)



• SCHEMATIC DIAGRAM (PAGE 29)



III MECHANISM CIRCUIT

IV MECHANISM CIRCUIT

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

Printed in Japan
H87 106980 IM

Cassette Deck

ORDER NO. HAD8704078C8-A

DEUTSCH

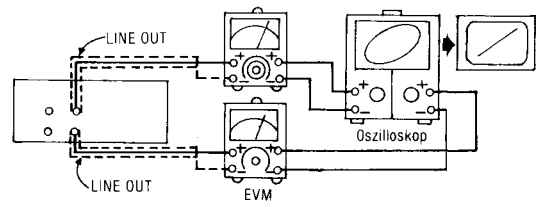
Verwenden Sie bitte diese Broschüre Zusammen mit der Service-Anieitung für das Modell Nr. RS-X888.

■ MESSUNGEN UND EINSTELL METHODEN

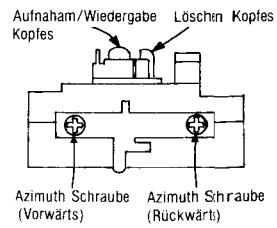
Meßinstrumente

- Elektronisches Voltmeter (EVM)
- Oszilloskop
- Digitaler Frequenzmesser
- Audiofrequenz-Oszillator
- Dämpfungswiderstand
- Gleichstrom-Voltmeter
- Widerstand (600Ω)

Kopfazimut-Justierung



1. Den Azimut-Justierungsteil (8kHz, −20dB) des Testbandes (QZZCFM) wiedergeben und die Winkel-justierungs-Einstellschraube so verstellen, daß der Ausgang vom linken und rechten Kanal maximal wird. (Wenn die Justierpositionen für den linken und rechten Kanal verschieden sind, ist eine Position zu finden, wo der Ausgang des linken und rechten Kanals ausgelichen ist, und dann ist die Justierung durchzuführen.)
2. Gleichzeitig eine Lissajous-Wellenform ziehen und Phasenablenkung eliminieren.
3. Dieselbe Justierung ist auch für die Rückwärts-Wiedergabe-Betriebsart durchzuführen.



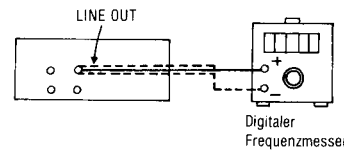
Prüfung des Vorwärts-und Rückwärts-Rotationspegel-Unterschieds.

4. Den für Wiedergabe-Verstärkungsgrad justierten Teil (315Hz, 0dB) des Testbandes (QZZCFM) wiedergeben und dann prüfen, ob der Vorwärts-und Rückwärts-Rotationspegel-Unterschied innerhalb 1dB liegt.
5. Nach der Justierung ist die Winkel-Justierschraube mit Lack zu sichern.

Bandgesch windigkeits-Justierung (DECK A, B)

—Schneller bandlauf—

1. Stellen Sie den Bandgeschwindigkeitswählschalter auf "X2" und erden Sie Deck B an TP3 und Deck A an TP4.
2. Spielen Sie den Mittelteil des Testbandes (QZZCWAT) ab.
3. Justieren Sie VR803 von Deck B und VR804 von Deck A so, daß die Abgabewerte innerhalb der Standardwerte liegen.



—Normaler Bandlauf—

4. Stellen Sie den Bandgeschwindigkeitswähischalter auf "X1" und unterbrechen Sie Deck B in TP3 und Deck A in TP4.
5. Spielen Sie den Mittelteil des Testbandes (QZZCWAT) ab.
6. Justieren Sie VR801 von Deck B und VR802 von Deck A so, daß die Abgabewerte innerhalb der Standardwerte Liegen.

Standardwert: 3000±15Hz (Normal), 6000±30Hz (Schnell)

Wiedergabe-Frequenzgang

1. Den Wiedergabe-Frequenzgangteil (315Hz, 12,5kHz~63Hz, −20dB) des Testbandes (QZZCFM) wiedergeben.
2. Überprüfen, ob der Frequenzgang innerhalb des in Abb. 2 für den linken und rechten Kanal gezeigten Bereichs liegt.

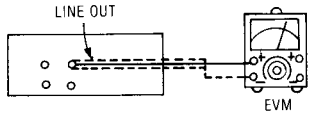


Abb. 1

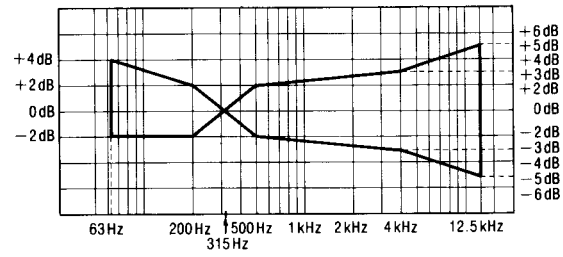


Abb. 2

Justierung des Wiedergabe-Verstärkungsgrades (DECK A, B)

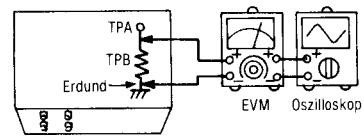
1. Der Testaufbau ist in Abb. 1 gezeigt.
2. Den für den Wiedergabe-Verstärkungsgrad justierten Teil (315Hz, 0dB) des Testbandes (QZZCFM) wiedergeben.
3. Den VR1, (linker Kanal) [[VR2 (rechter Kanal)]] für Deck B und den VR3 (linker Kanal) [[VR4 (rechter Kanal)]] für Deck A so justieren, daß die Ausgangsleistung dem Standard-Wert entspricht.

Standard-Wert: 0,4V±0,5dB

Löschstrom-Justierung (DECK A, B)

1. Eine Reineisenband-Cassette einsetzen.
2. Die Aufnahmetaste und die Pausentaste drücken.
3. Den VR301 (DECK B) [[VR302 (DECK A)]] so justieren, daß die Ausgangsleistung zwischen TP1 (DECK B) [[TP2 (DECK A)]] und Masse dem Standard-Wert entspricht.

Standard-Wert: 170±5mA (Metal), (170±5mV)



TPA: TP1 (Deck B), TP2 (Deck A)
TPB: VR301 (Deck B), VR302 (Deck A)

Gesamtfrequenzgang (DECK A, B)

1. Legen Sie eine normale Leerkassette (QZZCRA) ein und nehmen ein Signal (50Hz~12.5kHz) von 20dB auf, das durch das Referenzeingabepegelsignal (1kHz, −24dB) gedämpft wird.
2. Das in Schritt 1 aufgezeichnete Signal wiedergeben und prüfen, ob der Pegel jeder Ausgangsfrequenz im Bereich liegt, der in Abb. 4 im Vergleich zur Referenzfrequenz (1kHz) gezeigt wird.
3. Falls er nicht im Standard-Bereich liegt, ist der Vormagnetisierungsstrom mit VR9 (linker Kanal) [[VR10 (rechter Kanal)]] für Deck Bund den VR11 (linker Kanal) [[VR12 (rechter Kanal)]] für Deck A so zu justieren, daß der Frequenzpegel innerhalb des Standards zu liegen kommt.
   - Erhöhter Pegel im Frequenzbereich.....Den Vormagnetisierungsstrom erhöhen.
   - Reduzierter Pegel im Frequenzbereich.....Den Vormagnetisierungsstrom senken.
4. Anschließend das auf der CrO2-Leerband-Cassette (QZZCRX) und der Reineisenband-Leercassette (QZZCRZ) aufgezeichnete Signal auf 14kHz erhöhen und auf gleiche Weise justieren, wie vorgehend beschrieben. Dann überprüfen, ob der Frequenzpegel innerhalb des in Abb. 5 gezeigten Bereichs liegt.

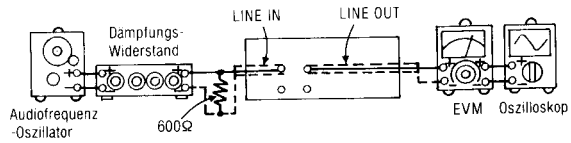


Abb. 3

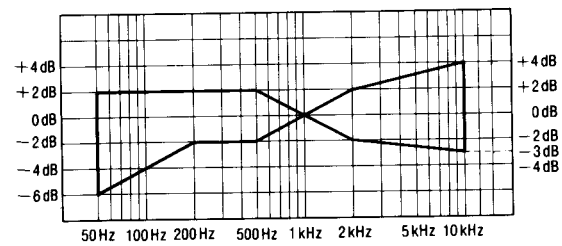


Abb. 4

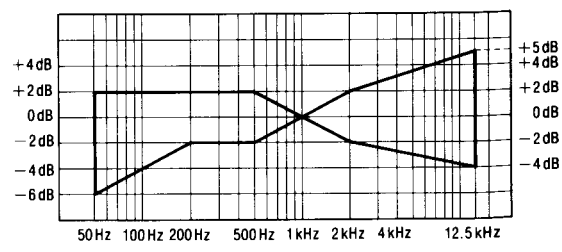


Abb. 5

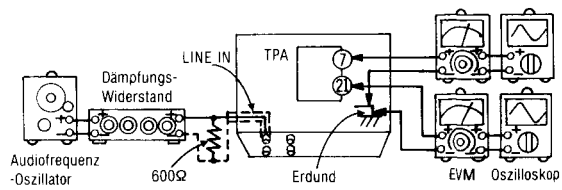
Justierung des Gesamtverstärkungsgrades (DECK A, B)

1. Der Testaufbau ist in Abb. 3 gezeigt.
2. Eine Normalband-Leercassette (QZZCRA) einsetzen und im Aufnahmepause-Zustand des Gerütes das Referenzsignal (1kHz, −24dB) eingeben.
3. Die Ausgangsleistung mit dem Dämpfungswiderstand auf 0.4V justieren und dann aufnehmen.
4. Das in Schritt 3 aufgezeichnete Signal wiedergeben und überprüfen, ob die Ausgangsleistung dem Standard-Wert entspricht.
5. Falls sie nicht dem Standard-Wert entspricht, ist der VR5 (linker Kanal) [[VR6 (rechter Kanal)]] für Deck B und den VR7 (linker Kanal) [[VR8 (rechter Kanal)]] für Deck A zu justieren, und dann sind die Schritte (2), (3) und (4) zu Wiederholen, bis die Ausgangsleistung dem Standard-Wert entspricht.

Standard-Wert: 0V±0,5dB

Dolby-Rauschunterdrückungs-Schaltkreis

1. Eine Normalband-Cassette einsetzen und im Aufnahmepause-Zustand des Gerätes ein 1kHz-Signal eingeben.
2. Mit dem Dämpfungswiderstand so justieren, daß die Ausgangsleistung zwischen Anschluß ⑦ des IC401 (linker Kanal) [[IC402 (rechter Kanal)]] und Masse 12.3mV beträgt.



TPA { **IC401 (Linker Kanal)** / **IC402 (Rechter Kanal)**

—Dolby B (Dolby-C) (Kodierungseigenschaft)—

3. Den Rauschunterdrückungs-Schaltkreis (NR) auf "Dolby B (Dolby C)" einstellen und das Eingangssignal auf 1kHz, 5kHz verändern.
4. Überprüfen, ob die Ausgangsleistung zwischen Anschluß ㉑ des IC401 (linker Kanal) [[IC402 (rechter Kanal)]] und Masse wie vorgeschrieben gegenüber dem Pegel im rauschunterdrückungsfreiem Zustand verändert wird.

Dolby-B:

Standard-Wert: 6±2,5dB (1kHz), 8±2,5dB (5kHz)

Dolby-C:

Standard-Wert: 11,5±2,5dB (1kHz), 8,5±2,5dB (5kHz)

FRANÇAIS

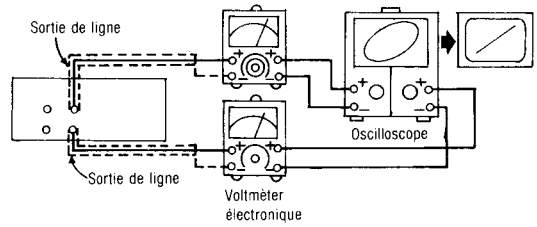
Ceci est à utiliser conjointement avec le manuel d'entretien du modèle No. RS-X888.

■ METHODES DES MEASURES ET REGLAGES

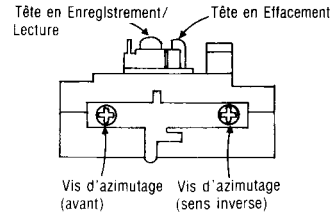
Appareils de mesurage

- Voltmètre électronique
- Oscilloscope
- Compteur de fréquence numérique
- Oscillateur de fréquence audio
- A.T.T. (Atténuateur)
- Voltmètre à C.C.
- Résistance (600Ω)

Réglage de l'angle des têtes de lecture



1. Faire jouer partie réglée azimutale (8kHz, −20dB) de la bande d'essai (QZZCFM) et régler la vis de mise au point azimutale de telle sorte que les puissances de sortie du canal de gauche et du canal de droite soient au maximum. (Si les positions de réglage du canal de gauche et du canal de droite sont différentes, trouver une position où les puissances de sortie des canaux de gauche et de droite soient équilibrées, puis effectuer la mise au point.)
2. En même temps, établir une forme d'onde de Lissajous et éliminer la déviation de phase.
3. Effectuer le même réglage sur le mode d'audition en sens inverse.



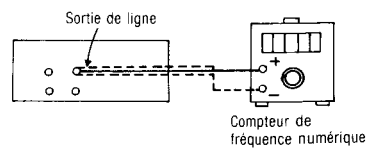
Vérifier la différence de niveau de rotation en marche avant et en marche arrière.

4. Faire jouer la partie réglée de l'amplification de la lecture (315Hz, 0dB) de la bande d'essai (QZZCFM), puis vérifier que la différence de niveau de rotation de la marche avant et de la marche arrière soit en deçà de 1dB.
5. Après le réglage, appliquer un blocage de vis à la vis de réglage azimutale.

Réglage de la vitesse de défilement de la bande (PLATINE A, B)

—A grande vitesse—

1. Régler le commutateur de vitesse de défilement de la bande de montage sur "X2" et relier à la terre la platine B sur TP3 et la platine A sur TP4.
2. Faire jouer la partie centrale de la bande d'essai (QZZCWAT).
3. Ajuster la platine B sur VR803 et la platine A sur VR804 de telle sorte qu la puissance de sortie sortie en deçà de la normale.



—Vitesse normale—

4. Régler le commutateur de vitesse de défilement de la bande de montage sur "X1" et mettre hors circuit la platine B sur TP3 et la platine A sur TP4.
5. Faire jouer la partie centrale de la bande d'essai (QZZCWAT).
6. Ajuster la platine B sur VR801 et la platine A sur VR802 de telle sorte que la puissance de sortie soit en deçà dela normale.

Valeur standard: 3000±15Hz (normale); 6000±30Hz (élevée)

Réponse en fréquence de la lecture

1. Faire jouer la partie de la réponse en fréquence de la lecture (315Hz, 12,5kHz~63Hz, −20dB) de la bande d'essai (QZZCFM).
2. Vérifier que la fréquence soit en deçà de la plage montrée à la Fig. 2, à la fois pour le canal de gauche et le canal de droite.

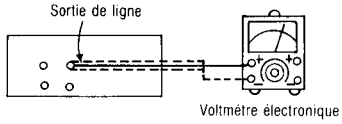


Fig. 1

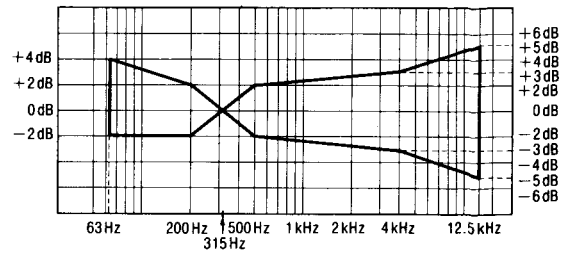


Fig. 2

Réglage d'amplification de la lecture (PLATINE A, B)

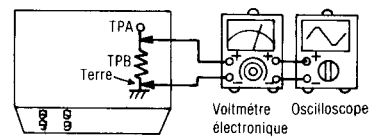
1. Le raccordement de l'équipement d'essai est montré à la Fig. 1.
2. Faire jouer la partie réglée d'amplification de la lecture (315Hz, 0dB) de la bande d'essai (QZZCFM).
3. Régler la platine B: VR1 (canal de gauche) [[VR2 (canal de droite)]] et la platine A: VR3, (canal de gauche) [[VR4 (canal de droite)]] de telle sorte que la puissance de sortie soit en deçà de la normale.

Valeur normalisée: 0,4V±0,5dB

Réglage de la tention d'effacement (PLATINE A, B)

1. Introduire la bande métallisée.
2. Appuyer sur les touches d'enregistrement et d'intermission.
3. Régler VR301 (platine B) [[VR302 (platine A)]] de telle sorte que la puissance de sortie entre TP1 (platine B) [[TP2 (platine A)]] et la masse soit en deçà de la normale.

Valeur normalisée:
170±5mA (Métallisée) (170±5mV)



TPA: TP1 (platine B), TP2 (platine A)
TPB: VR301 (platine B), VR302 (platine A)

Réponse en fréquence globale (PLATINE A, B)

1. Installer une bande vierge normale (QZZCRA) et enregistrer en appliquant un signal (50Hz~12,5kHz), 20dB atténués à partir du signal du niveau d'entrée de référence (1kHz, −24dB).

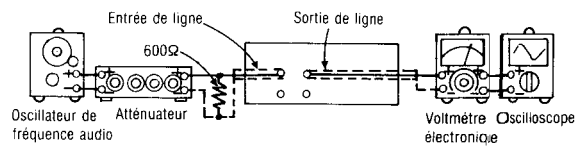


Fig. 3

2. Faire jouer le signal enregistré à l'étape 1 et vérifier que le niveau de chaque fréquence de sortie soit en deçà de la plage montrée à la Fig. 4 en comparaison avec la fréquence de référence (1kHz).
3. S'il n'est pas en deçà de la plage standard, régler le courant de polarisation avec platine B: VR9 (canal de gauche) [[VR10 (canal de droite)]] et platine A: VR11 (canal de gauche) [[VR12 (canal de droite)]] de telle sorte que le niveau de fréquence soit en deçà de la normale.
   - Niveau vers la haut dans la plage de fréquence élevée .....Augmenter le courant de polarisation.
   - Niveau vers le bas dans la plage de fréquence élevée.....Diminuer le courant de polarisation.
4. Aprés cela, amplifier le signal enregistré sur la bande vierge CrO2 (QZZCRX) et la bande vierge métallisée (QZZCRZ) jusqu'à 14kHz et régler de la même manièree que celle mentionné ci-dessus. Puis, vérifier que le niveau de fréquence soit en deçà de la plage montrée à la Fig. 5.

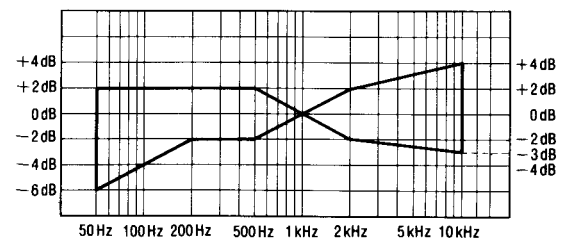


Fig. 4

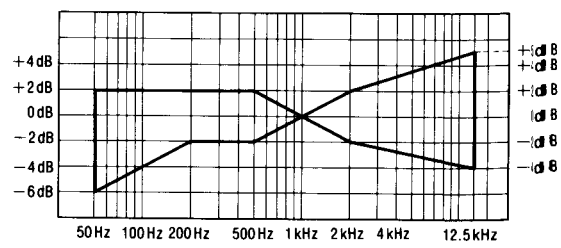


Fig. 5

Réglage d'amplification globale (PLATINE A, B)

1. Le raccordement de l'équipement d'essai est montré à la Fig. 3.
2. Installer une bande vierge normale (QZZCRA) et appliquer le signal de niveau d'entrée de référence (1kHz, −24dB) sur le mode d'intermission d'enregistrement.
3. Régler la puissance de sortie 0.4V avec L'atténuateur, puis enregistrer.
4. Faire jouer le signal enregistré à l'étape 3 et vérifier que la puissance de sortie soit en deçà de la normale.
5. Si elle n'est pas en deçà de la normale, régler platine B: VR5 (canal de gauche) [[VR6 (canal de droite)]] et platine A: VR7 (canal de gauche) [[VR8 (canal de droite)]] et répéter les étapes (2), (3) et (4) jusqu'à ce que la puissance de sortie soit en deçà de la normale.

Valeur normalisée: 0V±0,5dB

Circuit de réduction des bruits Dolby

1. Installer une bande normale et appliquer un signal de 5kHz sur le mode d'intermission d'enregistrement.
2. Régler avec l'atténuateur de telle sorte que la puissance de sortie entre la borne ⑦ de IC401 (canal de gauche) [[IC402 (canal de droite)]] et la masse soit de 12,3mV.

—Dolby B (Caractéristiques de codage)—

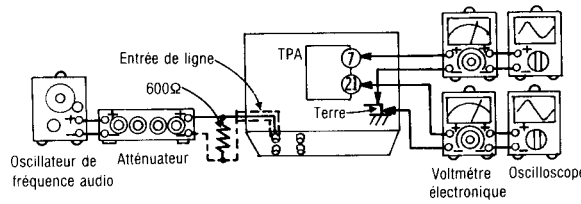
3. Régler le commutateur de réduction des bruits sur "Dolby B" et changer le signal d'entrée sur 1kHz, 5kHz.
4. Vérifier que la puissance de sortie entre la borne 21 de IC401 (canal de gauche) [[IC402 (canal de droite)]] et la masse change tel qu'il est spécifié à partir du niveau d'entrée sur le mode de sortie de réduction des bruits.

Valeur normalisée: 6±2,5dB (1kHz), 8±2,5dB (5kHz)

—Dolby C (Caractéristiques de codage)—

5. Régler le commutateur de réduction des bruits sur "Dolby C" et changer le signal d'entrée sur 1kHz, 5kHz.
6. Vérifier que la puissance de sortie entre la borne 21 de IC 401 (canal de gauche) [[IC402 (canal de droite)]] et la masse change tel qu'il est spécifié à partir du niveau d'entrée sur le mode de sortie de réduction des bruits.

Valeur normalisée: 11,5±2,5dB (1kHz), 8,5±2,5dB (5kHz)



TPA: { IC401 (Canal de gauche) / IC402 (Canal de droite) }

ESPAÑOL

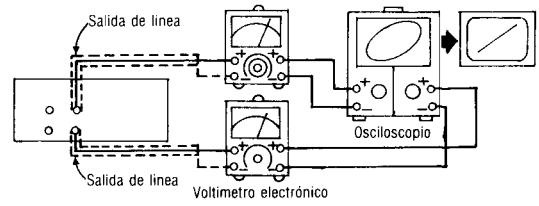
Sirvase utilizarse junto con manual de servicio para el model No. RS-X888.

■ METODOS DE AJUSTE Y MEDIDA

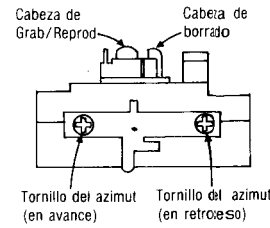
Instrumento de medición

- EVM (Voltimetro electrónico)
- Osciloscopio
- Frecuencimetro digital
- Oscilador AF
- ATT (Atenuador)
- Voltimetro CC
- Resistor (600Ω)

Ajuste acimutal de cabeza



1. Reproducir la parte ajustada de acimut (8kHz, −20dB) de la cinta de prueba (QZZCFM) y regular el tornillo de ajuste de ángulo de manera que las salidas de CH-1 y CH-D sean maximizadas. (Cuando las posiciones de ajuste sean diferentes de CH-1 y CH-D, encontrar una posición donde las salidas de CH-1 y CH-D estén equilibradas y, luego, hacer el ajuste.)
2. Al mismo tiempo, trazar una forma de onda de lissajous y eliminar la deflexión de fase.
3. Efectuar el ajuste en la modalidad de función regresiva. Comprobación de diferencia de nivel de rotación progresiva y regresiva.
4. Reproducir la parte ajustada de ganancia de reproducción (315Hz, 0dB) de la cinta de prueba (QZZCFM) y, luego, comprobar que la diferencia de nivel de rotación progresiva y regresiva esté dentro de 1dB.
5. Después del ajuste, aplicar cierre por tornillo al tornillo de ajuste de ángulo.



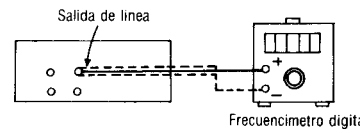
Ajuste de velocidad de cinta (PLATINA A, B)

—Alta velocidad—

1. Poner el conmutador de velocidad de cinta de compaginación en "X2" y poner a tierra la Platina B: TP3 y Platina A: TP4.
2. Reproducir la parte de en medio de la cinta de prueba (QZZWAT).
3. Ajustar la Platina B: VR803 y Platina A: VR804 de manera que la salida esté dentro de la estándar.

—Velocidad normal—

4. Poner el conmutador de velocidad de cinta de compaginación en "X1" y abra la Platina B: TP3 y Platina A: TP4.
5. Reproducir la parte de en medio de la cinta de prueba (QZZCWAT).
6. Ajustar la Platina B: VR801 y Platina A: VR802 de manera que la salida esté dentro de la estándar.



valor estándar: 3000±15Hz (normal) 6000±30Hz (alta)

Respuesta de frecuencia de reproducción

1. Reproducir la parte de respuesta de frecuencia de reproduc-ción (315Hz, 12,5kHz~63Hz, −20dB) de la cinta de prueba (QZZCFM).
2. Comprobar que la frecuencia esté dentro de la gama mostrada en la Fig. 1 tanto para CH-1 como para CH-D.

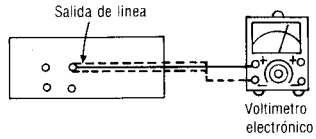


Fig. 1

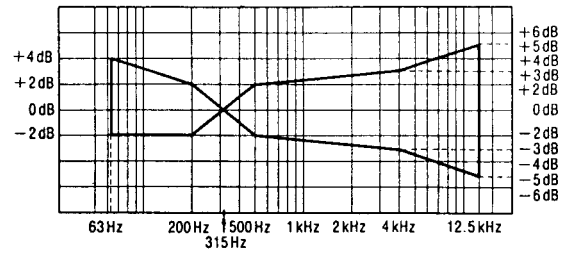


Fig. 2

Ajuste de ganancia de reproducción (PLATINA A, B)

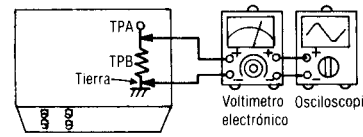
1. La conexión del equipo de prueba se muestra en la Fig. 1.
2. Reproducir la parte ajustada de la ganancia de reproducción (315Hz, 0dB) de la cinta de prueba (QZZCFM).
3. Ajustar la platina B: RV1 (CH-1) [[RV2 (CH-D)]] y la platina A: RV3, (CH-1) [[RV4 (CH-D)]] de manera que la salida esté dentro de la estandard.

Valor estandard: 0,4V±0,5dB

Ajuste de corriente de borrado (PLATINA A, B)

1. Insertar la cinta metálica.
2. Apretar los botones de grabación y pausa.
3. Ajustar RV301 (platina B) [[RV302 (platina A)]] de manera que la salida entre TP1 (platina B) [[TP2 (platina A)]] y tierra esté dentro de la estándar.

Valor estándar: 170±5mA (Metal) 170±5mV



TPA: TP1 (platina B), TP2 (platina A)
TPB: RV301 (platina B), RV302 (platina A)

Respuesta de frecuencia total (PLATINA A, B)

1. Poner una cinta virgen normal (QZZCRA) y grabar aplicando señal (50Hz~12.5kHz) 20dB atenuada de la señal de nivel de entrada de referencia (1kHz, −24dB).
2. Reproducir la señal grababa en el paso 1 y comprobar que el nivel de cada frecuencia de salida esté dentro de la gama mostrada en la Fig. 4 en comparación con la frecuencia de referencia (1kHz).

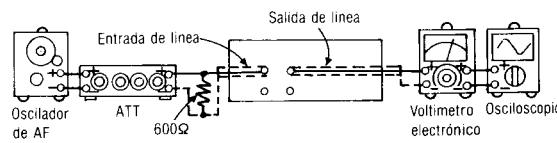


Fig. 3

3. Si no está dentro de la gama estandard, ajustar la corriente de polarización mediante platina B: RV9 (CH-1) [[RV10 (CH-D)]] y la platina A: RV11 (CH-1) [[RV12 (CH-D)]] de manera que el nivel de frecuencia esté dentro del estandard.
   - Subir el nivel en la gama de alta frecuencia.....Incrementar la corriente de polarización.
   - Bajar el nivel en la gama de alta frecuencia.....Disminuir la corriente de polarización.
4. Después de eso, incrementar la señal grabada en la cinta virgen CrO2 (QZZCRX) y la cinta virgen metálica (QZZCRZ) hasta 14kHz y ajustar de la misma manera como mencionado arriba y comprobar que el nivel de frecuencia esté dentro de la gama mostrada en la Fig. 5.

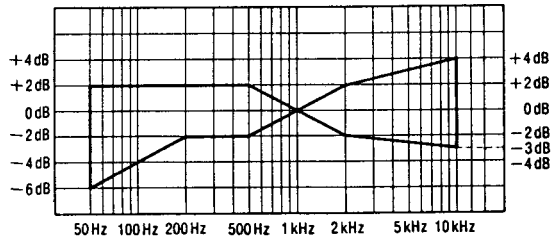


Fig. 4

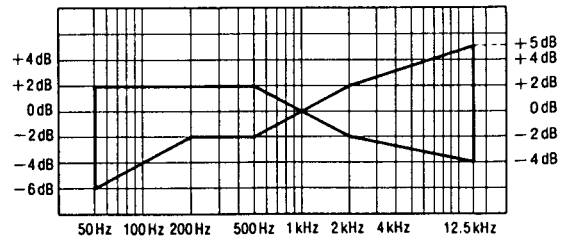


Fig. 5

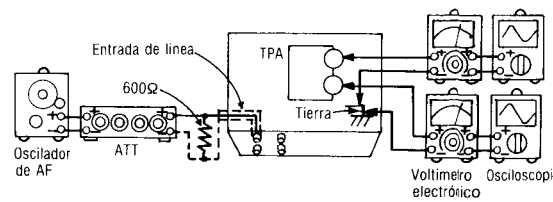
Ajuste de ganancia total (PLATINA A, B)

1. La conexión del equipo de prueba se muestra en la Fig. 3.
2. Colocar una cinta virgen normal (QZZCRA) y aplicar la señal de nivel de entrada de referencia (1 kHz, −24 dB) en la modalidad de pausa de grabación.
3. Ajustar la salida 0,4 V mediante atenuador y, luego, grabar.
4. Reproducir la señal gradada en el paso 3 y comprobar que la salida esté dentro de la estandard.
5. Si no está dentro de la estandard, adjustar la platina B: RV5 (CH-1) [[RV6 (CH-D)]] y la platina A: RV7 (CH-1) [[RV8 (CH-D)]] y repetir el paso (2), (3) y (4) hasta que la salida esté dentro de la estandard.

Valor estandard: 0 V ± 0,5 dB

Circuito RR Dolby

1. Colocar una cinta normal y aplicar señal 5 kHz en la modalidad de pausa de grabación.
2. Ajustar mediante atenudador de manera que la salida entre terminal ⑦ de IC401 (CH-1) [[IC402 (CH-D)]] y tierra sea 12,3 mV.



TPA: { **IC401 (CH-1)** / **IC402 (CH-D)** }

— Dolby B (Codificar caracteristica) —

3. Poner el interruptor RR en "Dolby B" y cambiar la señal de entrada a 1 kHz, 5 kHz.
4. Comprobar que la salida entre terminal ㉑ de IC401 (CH-1) [[IC402 (CH-D)]] y tierra cambie como especificado por el nivel en la modalidad de salida RR.

Valor estandard: 6 ± 2,5 dB (1 kHz), 8 ± 2,5 dB (5 kHz)

— Dolby C (Condificar caracteristica) —

5. Poner el interruptor RR en "Dolby C" y cambiar la señal de entrada a 1 kHz, 5 kHz.
6. Comprobar que la salida entre terminal ㉑ de IC401 (CH-1) [[IC402 (CH-D)]] y tierra cambie como especificado por el nivel en la modalidad de salida RR.

Valor estandard: 11,5 ± 2,5 dB (1 kHz), 8,5 ± 2,5 dB (5 kHz)

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